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THIRTY-THIRD ANNUAL REPORT  
OF THE  
HEALTH DEPARTMENT



OF THE  
CITY OF BOSTON

1904



THE GIFT OF

*Dr. S. A. Green*





THIRTY-THIRD ANNUAL REPORT

OF THE

HEALTH DEPARTMENT

OF THE

CITY OF BOSTON

FOR THE YEAR 1904



BOSTON  
MUNICIPAL PRINTING OFFICE  
1905



## ORGANIZATION OF THE HEALTH DEPARTMENT.

---

SAMUEL H. DURGIN, M.D., *Chairman.*

DENNIS J. HERN.

THOMAS B. SHEA, M.D.

---

CHARLES E. DAVIS, JR., *Secretary.*





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Boston, February 1, 1905.

HON. P. A. COLLINS,

*Mayor of the City of Boston:*

SIR,—The Board of Health respectfully presents the thirty-third annual report of the department, covering its operations for the financial year ending January 31, 1905, and the mortality statistics for the calendar year ending December 31, 1904. The general health of the city for the past year, so far as it may be judged by the total mortality and its classified causes, has been better than the average for many years.

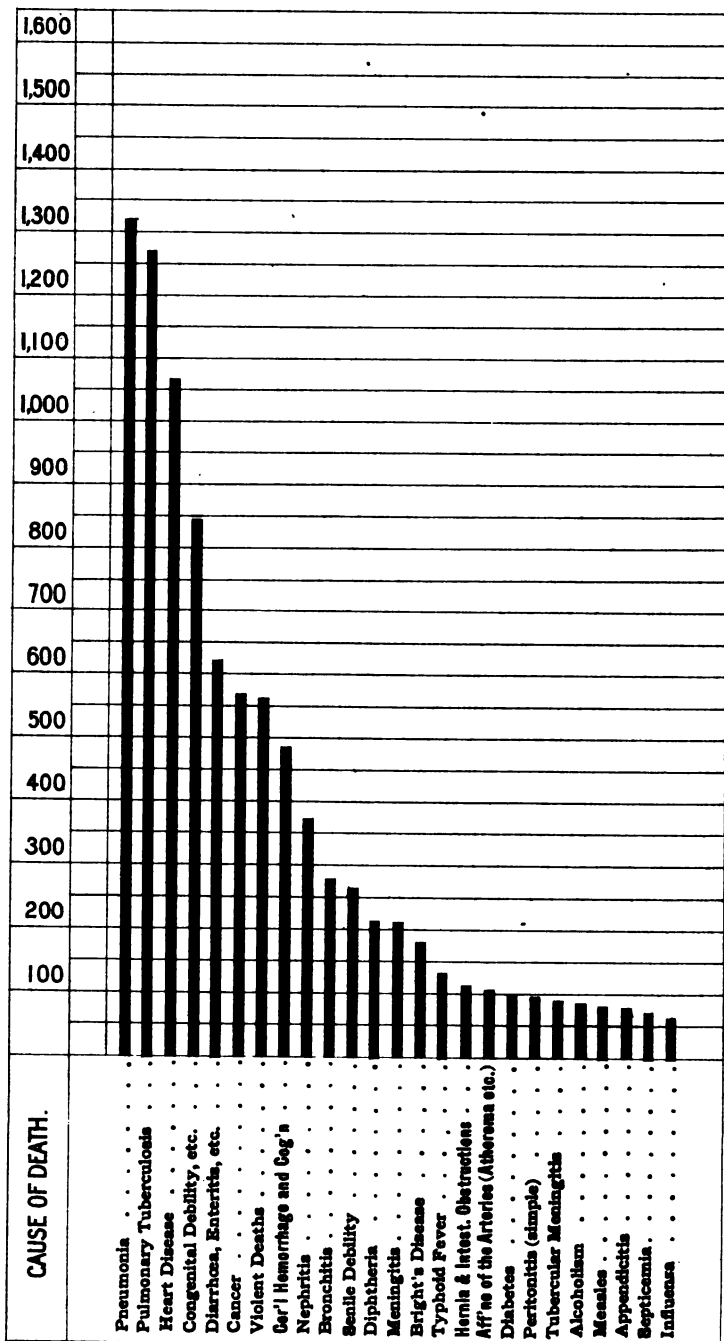
The total number of deaths for the year was 10,757, an increase over the previous year of 125 deaths. The population, estimated in the middle of the year, is 614,522. The death-rate for the year, as calculated on this population, is 17.50 per 1,000 inhabitants. This rate is less by 0.19 than that of the previous year, and the lowest on the city's record. There were 2,311 deaths from infectious diseases, including consumption, an increase of 19 deaths. There were 8 less deaths from diphtheria and croup than in 1903, but a large proportionate increase in the number of cases. The percentage of deaths to the number of cases of diphtheria reported was 8.12, as against 10.32 per cent. the preceding year. There were 39 deaths from scarlatina, 26 less deaths than in the preceding year, and 84 deaths less than the average for the five previous years. Typhoid fever caused 135 deaths during the year, 16 more deaths than the preceding year. Fifty-three of the deaths from this cause occurred during the months of August, September and October, and

80 of the whole number died between the ages of twenty and forty years.

There were 89 deaths from measles during the year. The number of deaths of children under five years of age was 3,105, compared with 3,079 for the previous year, showing an increase of 26 deaths. The respiratory diseases caused fully 27 per cent. of the mortality for the past year.

# CHART NO. 1.

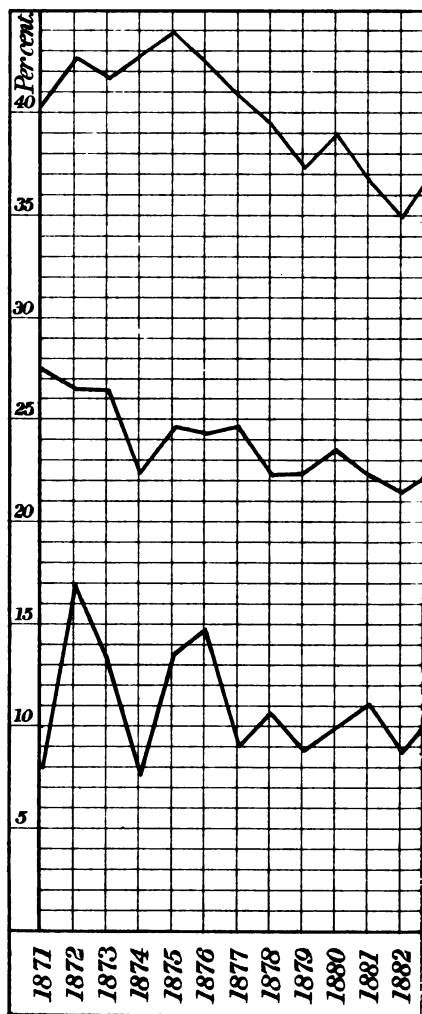
## Comparative View of Twenty-five of the Principal Causes of Death during the Year 1904.



■ Deaths from Infectious Diseases.  
 □ Deaths from other Diseases.



Percentage of D  
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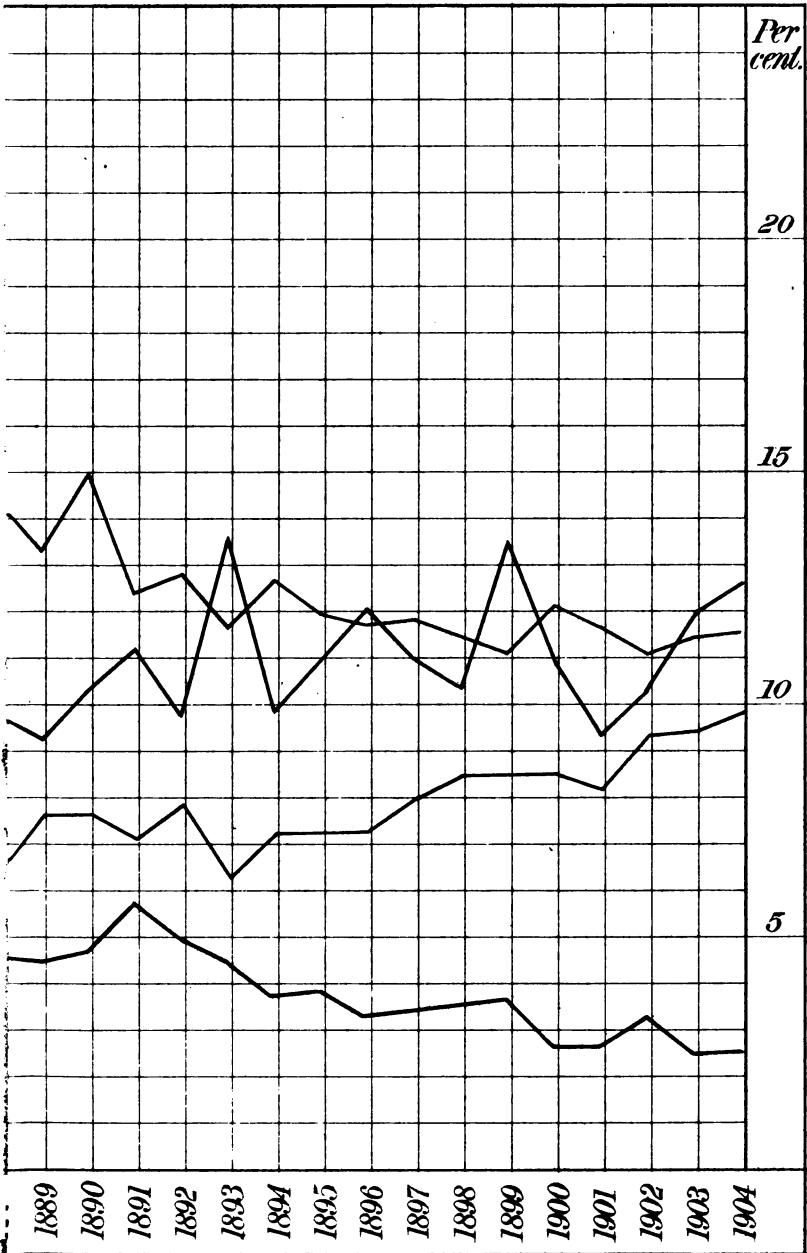


Percentage of Childr  
 " of Childr  
 " of Diphth  
 and Sr





FOR FIFTY-FOUR YEARS.

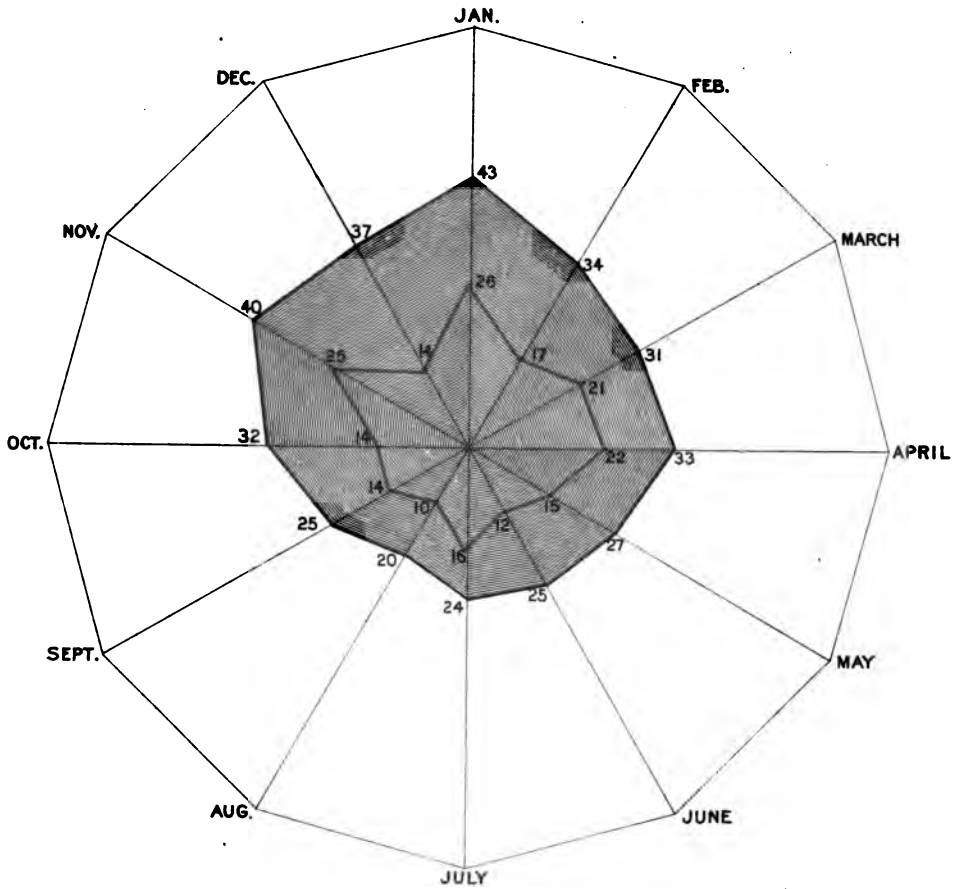


BRONCHITIS ■



# CHART NO. 4.

## DIPHTHERIA.



———— Average deaths per month for ten years, 1895-1904.

———— Deaths per month for the year 1904.



Table I. —Total of Deaths, Still-births and Deaths from Infectious Diseases for Thirty-four Years.

YEARS.	Total Deaths, exclusive of Still-births.	Still-births.	Rates of Still- births per 1,000 Inhab- itants.	Diphtheria and Croup.	Scarlet Fever.	Typhoid Fever.	Cerebro-spinal Meningitis.	Whooping Cough.	Measles.	Smallpox.	Cholera Infantum.	Pyæmia and Septicæmia.	Erysipelas.	Intermittent Fever.	Dysentery.
1871.....	5,888	543	1.88	128	111	176	3	30	9	23	526	....	59	....	56
1872.....	8,090	560	1.91	94	258	229	60	52	60	738	742	....	99	....	56
1873.....	7,869	515	1.76	119	474	243	216	33	16	302	616	....	92	1	57
1874.....	7,812	642	2.19	121	269	202	35	108	41	2	679	26	51	3	56
1875.....	9,060	541	1.28	631	534	227	41	41	65	1	684	22	69	....	97
1876.....	8,253	485	1.41	720	458	145	13	59	2	2	542	36	45	....	96
1877.....	7,316	471	1.37	471	104	156	24	88	2	4	563	18	30	4	166
1878.....	7,636	441	1.28	569	68	120	19	88	145	....	395	14	43	2	216
1879.....	7,398	453	1.24	545	149	119	15	112	2	....	383	29	46	4	101
1880.....	8,531	443	1.22	774	33	154	8	94	49	1	518	18	24	....	121
1881.....	9,016	513	1.29	802	35	207	16	77	108	6	444	23	42	3	96
1882.....	8,995	518	1.26	575	75	212	24	92	25	8	506	33	40	2	83
1883.....	9,740	504	1.17	608	211	198	23	31	152	1	543	42	42	1	88
1884.....	9,622	503	1.17	487	209	216	26	181	13	1	517	40	47	1	61
1885.....	9,618	520	1.30	450	156	152	19	26	84	2	461	32	40	3	62
1886.....	9,268	543	1.35	423	81	135	14	37	36	....	444	43	39	....	61
1887.....	10,073	534	1.33	410	196	183	16	82	119	....	492	37	34	....	59
1888.....	10,179	552	1.33	589	65	170	19	74	27	2	440	27	41	1	48
1889.....	10,259	598	1.42	683	23	186	21	96	48	2	450	26	24	....	76
1890.....	10,181	627	1.39	462	42	155	17	39	19	....	498	31	36	....	30
1891.....	10,571	614	1.33	285	64	154	21	39	21	....	597	44	39	2	48
1892.....	11,236	633	1.34	481	262	137	12	45	19	....	563	37	37	....	30
1893.....	11,710	605	1.24	546	248	143	15	40	27	....	499	56	56	6	39
1894.....	11,520	700	1.39	878	192	141	18	111	8	22	569	53	32	4	38
1895.....	11,329	607	1.21	654	114	163	15	47	19	....	500	67	34	5	43
1896.....	11,634	648	1.25	572	112	162	21	67	27	....	575	61	30	5	44
1897.....	11,154	614	1.16	456	136	173	185	39	21	....	400	73	34	1	18
1898.....	10,886	613	1.13	185	33	185	97	68	27	....	441	69	30	1	41
1999.....	11,167	539	.97	304	74	165	88	76	33	5	280	73	42	1	31
1900.....	11,678	573	1.02	537	181	143	66	99	89	....	299	100	53	6	26
1901.....	11,300	576	1.00	853	210	142	54	65	103	74	210	98	51	1	28
1902.....	10,983	623	1.06	225	87	139	62	132	66	190	186	89	65	8	36
1903.....	10,632	635	1.06	214	65	119	47	108	50	13	180	66	34	....	22
1904.....	10,757	663	1.08	206	39	135	37	29	89	....	206	77	62	2	20

**Table II. — Total number of Deaths under One Year; under Five Years, Five Years and over, with Percentages to the Total Mortality for Thirty-four Years. Also Death-Rates under One Year per Ten Thousand Inhabitants.**

YEARS.	Total Deaths.	Five Years and over.	Under Five Years.	Under One Year.	PERCENTAGES.			Death rate under One year per 10,000 Inhabitants.
					Five Years and over.	Under Five Years.	Under One Year.	
1871.....	5,888	3,493	2,895	1,597	59.33	40.67	27.12	61.89
1872.....	8,090	4,676	3,414	2,157	57.79	42.21	26.66	81.16
1873.....	7,869	4,580	3,289	2,066	58.20	41.80	26.25	64.32
1874.....	7,812	4,454	3,358	2,202	57.01	42.99	22.19	66.45
1875.....	9,060	5,088	3,972	2,268	56.16	43.84	24.98	66.18
1876.....	8,253	4,722	3,531	2,086	57.22	42.78	24.67	58.84
1877.....	7,316	4,334	2,982	1,817	59.24	40.76	24.84	51.60
1878.....	7,686	4,630	3,006	1,747	60.63	39.37	22.88	49.30
1879.....	7,398	4,593	2,905	1,690	62.08	37.92	22.84	47.13
1880.....	8,531	5,182	3,349	2,014	60.74	39.26	23.60	55.50
1881.....	9,016	5,702	3,314	2,005	63.24	36.76	22.24	54.46
1882.....	8,985	5,844	3,151	1,945	64.97	35.03	21.62	52.05
1883.....	9,740	6,113	3,672	2,183	62.76	37.24	22.41	57.58
1884.....	9,622	6,052	3,570	2,235	62.90	37.10	23.23	58.09
1885.....	9,618	6,152	3,466	2,156	63.97	36.03	22.42	55.23
1886.....	9,268	6,082	3,186	2,110	55.63	34.37	22.77	52.57
1887.....	10,073	6,411	3,662	2,312	63.55	36.45	22.95	56.02
1888.....	10,197	6,598	3,599	2,281	64.71	35.29	22.37	53.76
1889.....	10,259	6,626	3,633	2,360	64.59	35.41	23.00	54.10
1890.....	10,181	6,832	3,349	2,271	67.11	32.89	23.30	51.08
1891.....	10,571	6,963	3,608	2,552	65.87	34.13	24.14	55.75
1892.....	11,236	7,501	3,735	2,466	66.76	33.24	21.95	52.78
1893.....	11,710	7,723	3,987	2,531	65.96	34.04	21.61	53.07
1894.....	11,520	7,412	4,108	2,552	64.34	35.66	22.15	52.42
1895.....	11,329	7,394	3,985	2,580	65.27	34.73	22.77	51.49
1896.....	11,634	7,579	4,055	2,670	65.15	34.85	22.95	51.71
1897.....	11,154	7,446	3,708	2,462	66.76	33.24	22.07	46.55
1898.....	10,886	7,309	3,577	2,572	67.14	32.86	23.63	47.47
1899.....	11,167	7,576	3,591	2,404	67.84	32.16	21.53	43.41
1900.....	11,678	7,926	3,752	2,410	67.87	32.13	20.64	42.96
1901.....	11,300	7,831	3,469	2,287	69.30	30.70	20.24	39.87
1902.....	10,983	7,616	3,367	2,257	69.34	30.66	20.55	38.48
1903.....	10,632	7,553	3,079	2,173	71.04	28.96	20.44	36.16
1904.....	10,757	7,652	3,105	2,207	71.13	28.87	20.52	35.91

Table III.—Deaths during the Year 1904, by Sex, Condition, Color, Nativity, Parentage, and Season.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Total number of deaths..	1,013	905	1,045	998	904	696	886	901	888	814	869	888	10,757
<i>Sex:</i>													
Males .....	529	449	526	531	462	363	430	482	464	439	469	424	5,568
Females .....	484	456	519	467	442	333	406	419	424	375	400	464	5,189
<i>Condition:</i>													
Single .....	495	448	487	498	434	363	475	528	487	378	408	398	5,899
Married .....	327	273	371	322	274	217	231	265	255	239	303	306	3,433
Widows .....	120	120	124	116	121	79	83	63	84	95	108	128	1,241
Widowers .....	53	51	50	53	55	35	33	37	51	48	46	44	556
Divorced .....	5	5	5	3	5	5	3	4	3	.....	2	4	89
Unknown .....	13	8	8	6	15	2	11	4	8	4	2	8	89
<i>Color:</i>													
White .....	977	878	1,020	953	875	680	814	876	863	733	848	870	10,447
Black (Negro or Mixed) .....	35	23	25	42	26	13	19	24	23	21	20	17	238
Indian .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chinese .....	1	4	.....	3	3	3	3	.....	2	.....	1	1	21
Japanese .....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
<i>Nativity:</i>													
United States .....	646	564	659	623	574	443	556	603	600	501	533	501	6,808
Ireland .....	179	161	202	195	157	118	145	133	139	157	148	179	1,913
England .....	17	13	19	18	16	16	21	18	11	20	17	23	209
Scotland .....	8	12	3	8	7	9	11	4	4	8	14	7	95
Germany .....	12	13	25	21	11	13	11	21	15	9	16	22	189
British Provinces .....	89	72	82	73	69	47	45	55	52	57	72	94	807
Italy .....	18	12	18	17	17	11	8	24	16	13	16	21	191
Russia .....	14	19	7	9	17	6	6	15	11	7	15	17	143
Sweden .....	5	7	8	9	5	9	9	4	8	6	11	6	87
Other countries .....	12	19	6	16	16	15	13	11	16	22	18	11	175
Unknown .....	13	13	16	9	15	9	11	13	16	14	9	7	145
<i>Parentage:</i>													
American .....	247	186	238	221	214	146	167	186	186	180	186	193	2,330
Irish .....	301	282	355	290	283	214	260	266	260	274	280	279	3,344
English .....	16	15	21	23	18	12	25	13	12	21	19	20	215
Scotch .....	14	16	6	12	11	14	11	9	5	9	13	14	134
German .....	13	21	30	28	14	20	16	26	15	18	20	26	247
British Provinces .....	53	59	64	43	46	46	42	58	49	55	58	62	635
Italian .....	48	36	45	56	49	41	37	49	38	40	40	40	519
Russian .....	28	29	24	24	30	14	27	37	34	17	29	19	312
Swedish .....	8	10	9	12	7	11	9	10	11	10	14	8	119
Other countries .....	56	61	47	82	60	42	53	48	50	48	53	60	660
Mixed .....	75	54	83	66	48	40	72	65	92	64	45	59	763
One parent unknown .....	63	59	50	68	51	49	54	66	62	33	39	41	635
Unknown .....	91	77	73	73	73	47	63	68	74	65	73	67	844



Table IV.—Monthly Deaths Reduced to a Standard of 100.

MONTHS. 1904.	Total Deaths in Month.	Monthly Deaths Reduced to a Standard of 100.	Deaths per Day.
January .....	1,013	110.8	32.7
February .....	905	105.8	31.2
March .....	1,045	114.3	33.7
April .....	998	112.8	33.3
May .....	904	98.9	29.2
June .....	696	78.7	23.2
July .....	836	91.5	27.0
August .....	901	98.6	29.0
September ..	888	100.3	29.6
October .....	814	89.0	26.3
November .....	869	98.2	29.0
December .....	888	97.3	29.0
Total .....	10,757	100.0	29.4

Table V.—Deaths from Principal Infectious Diseases.

	Total Deaths from each Cause.	Percentage of each Cause to Total Mortality.	Deaths per 1,000 In- habitants.	Total Deaths per Sex.		Total Deaths per Sex under Five Years.		Total Deaths under Five Years.	Percentage of each Cause under Five Years to Total Mortality.
				M.	F.	M.	F.		
Smallpox .....									
Measles .....	89	.827	.145	55	34	55	34	89	.827
Scarlatina .....	39	.362	.063	21	18	10	9	19	.177
Diphtheria and Croup ..	206	1.915	.335	105	101	71	66	137	1.274
Whooping-cough .....	29	.270	.047	9	20	9	19	28	.260
Typhoid Fever .....	135	1.255	.220	86	49	3	.....	3	.028
Erysipelas .....	62	.576	.101	32	30	10	9	19	.177
Puerperal Septicæmia ..	18	.167	.029	.....	18	.....	.....	.....	.....
Dysentery .....	20	.186	.033	7	13	2	5	7	.065
Cholera Morbus .....	8	.074	.013	2	6	1	1	2	.019
Phthisis Laryngeal, Pul- monary and General Tuberculosis .....	1,280	11.899	2.083	685	595	29	42	71	.680
Influenza .....	65	.604	.106	26	39	3	3	6	.056
Syphilis, Congenital .....	23	.214	.037	12	11	12	11	23	.214
Syphilis, Tertiary .....	13	.121	.021	7	6	.....	.....	.....	.....
Pyæmia and Septicæmia ..	77	.716	.125	38	39	7	14	21	.195



Table VII. — The Number and Percentages of Deaths in each Quarter of each Year during a Period of Forty Years, 1865-1904, inclusive.

YEARS.	FIRST QUARTER.		SECOND QUARTER.		THIRD QUARTER.		FOURTH QUARTER.		Rate Per 1,000 Inhabi- tants. <sup>1</sup>
	Deaths.	Per cent.	Deaths.	Per cent.	Deaths.	Per cent.	Deaths.	Per cent.	
1865.....	1,115	24.55	1,068	23.52	1,353	29.80	1,005	22.13	23.61
1866.....	999	22.31	957	21.35	1,338	30.56	1,085	24.78	22.51
1867.....	1,071	24.22	950	21.49	1,191	26.94	1,209	27.25	22.38
1868.....	1,341	24.30	1,203	21.80	1,785	31.45	1,239	22.45	23.89
1869.....	1,374	24.88	1,297	23.48	1,562	28.28	1,290	22.36	23.54
1870.....	1,395	22.88	1,314	21.55	1,938	33.52	1,405	22.05	24.34
1871.....	1,411	23.97	1,299	22.06	1,842	31.28	1,395	22.69	22.82
1872.....	1,697	20.97	1,777	21.97	2,511	31.04	2,105	26.02	30.43
1873.....	2,115	26.88	1,746	21.93	2,278	28.95	1,750	22.24	28.75
1874.....	1,805	23.11	1,318	23.27	2,278	29.16	1,911	24.46	23.57
1875.....	2,190	24.17	2,011	22.20	2,680	29.58	2,179	24.05	26.50
1876.....	2,246	27.21	1,809	21.92	2,275	28.78	1,823	22.09	20.96
1877.....	1,723	23.55	1,613	22.05	2,317	31.67	1,663	22.73	20.89
1878.....	1,743	22.82	1,744	22.84	2,174	28.47	1,975	26.87	21.55
1879.....	1,947	26.32	1,615	21.83	1,959	26.48	1,877	25.27	20.63
1880.....	2,015	23.62	1,829	21.45	2,500	29.30	2,187	26.63	22.51
1881.....	2,332	25.86	2,021	22.42	2,466	27.35	2,197	24.33	24.48
1882.....	2,104	23.39	2,212	24.59	2,489	27.67	2,190	24.35	24.07

1888.....	2,268	23,28	2,409	24.74	2,757	28.31	2,808	23.67	26.69
1884.....	2,284	23,73	2,103	21.85	2,725	28.33	2,510	28.09	25.01
1885.....	2,510	26,10	2,484	25.82	2,692	26.95	2,082	21.13	24.64
1886.....	2,214	23,89	2,113	22.79	2,590	27.84	2,301	23.48	23.09
1887.....	2,362	23,45	2,231	22.65	2,912	28.90	2,518	24.00	21.41
1888.....	2,790	27,26	2,490	23.73	2,649	25.96	2,338	22.36	24.08
1889.....	2,437	23,75	2,543	24.79	2,854	27.82	2,425	22.64	22.52
1890.....	2,911	28,60	2,244	22.04	2,699	26.51	2,337	22.85	22.70
1891.....	2,442	23,10	2,540	24.03	2,835	26.82	2,754	26.05	23.09
1892.....	2,908	26,68	2,538	22.98	2,868	26.33	2,698	24.01	24.04
1893.....	2,969	26,35	2,847	24.31	2,913	25.74	2,881	24.60	24.55
1894.....	2,972	26,80	2,592	22.50	2,182	27.62	2,774	24.08	23.65
1895.....	2,995	26,44	2,574	22.72	2,027	26.72	2,783	24.12	22.69
1896.....	2,897	24,90	2,807	24.13	2,319	26.53	2,611	22.44	22.28
1897.....	3,022	27,09	2,809	25.12	2,883	25.40	2,497	22.39	21.08
1898.....	2,599	23,87	2,512	22.06	2,061	28.08	2,794	25.02	20.09
1899.....	2,987	26,75	2,632	22.57	2,800	25.07	2,748	24.61	20.12
1900.....	3,368	28,84	2,778	23.79	2,906	24.89	2,686	22.48	20.82
1901.....	3,082	26,83	2,744	24.29	2,814	24.90	2,710	22.98	19.70
1902.....	2,868	26,11	2,645	24.08	2,647	24.10	2,823	25.71	18.73
1903.....	2,932	26,05	2,515	22.65	2,594	24.40	2,541	23.90	17.69
1904.....	2,963	27,55	2,598	24.15	2,625	24.40	2,571	23.90	17.50

\* Population estimated in non-census years on Dr. Farr's formula.

**Table VIII. — Deaths from Ten of the Principal Causes.**

	Total Deaths from each Cause.	Percentage of each Cause to Total Mortality.	Deaths per 1,000 Inhabitants.	Total Deaths by Sex.		Total Deaths by Sex under five years.		Total Deaths under Five Years.	Percentage of each Cause under Five Years to Total Mortality.
				M.	F.	M.	F.		
Pneumonia.....	1,323	12.299	2.153	684	639	277	249	526	4.890
Pulmonary Laryngeal and General Tuberculosis.....	1,280	11.899	2.083	685	595	29	42	71	.660
Heart Disease.....	1,056	9.817	1.718	516	540	19	15	34	.316
Congenital Debility, Scleremia, etc.....	759	7.056	1.235	440	319	440	319	759	7.056
Diarrhoea, Enteritis, etc.....	649	6.033	1.056	325	324	290	280	570	5.299
Cancer and other malignant Tumors,	565	5.262	.919	199	366	4	4	8	.074
Violent Deaths.....	555	5.159	.903	410	145	32	27	59	.548
Cerebral Hemorrhage and Congestion.....	498	4.630	.810	247	251	5	.....	5	.046
Nephritis.....	362	3.365	.589	201	161	3	2	5	.046
Bronchitis.....	273	2.538	.444	123	150	63	53	116	1.078

**Table IX. — Total Deaths each Quarter of the last Five Years, with the Aggregate and Average Number from 1895 to 1899, inclusive.**

	1900.	1901.	1902.	1903.	1904.	5 years, 1895-1899.	
						Aggregate.	Average.
First quarter.....	3,368	3,032	2,868	2,982	2,963	14,500	2,900
Second quarter.....	2,778	2,744	2,645	2,515	2,598	13,327	2,665
Third quarter.....	2,906	2,814	2,647	2,594	2,625	15,080	3,006
Fourth quarter.....	2,626	2,710	2,823	2,541	2,571	13,313	2,663
Total each year...	11,678	11,300	10,983	10,632	10,757	56,170	11,234

**Table X.—Total Deaths and Percentages each Quarter for the Year 1904, with Aggregates and Percentages for the Ten Years Previous.**

	1904.		1894-1903.	
	Deaths.	Per cent.	Deaths.	Per cent.
First quarter.....	2,968	27.55	29,722	26.47
Second quarter.....	2,598	24.15	26,601	23.69
Third quarter.....	2,625	24.40	29,173	25.98
Fourth quarter.....	2,571	23.90	26,787	23.86
Total.....	10,757	100.00	112,283	100.00

Table XI. — Parentage of Children by Sex and under One, Two, and Five Years for each Month during Year 1904.

	JANUARY.						FEBRUARY.						MARCH.						APRIL.						MAY.						JUNE.					
	Under 1 yr.			1 yr. and under 2 yrs.			Under 1 yr.			1 yr. and under 2 yrs.			Under 1 yr.			1 yr. and under 2 yrs.			Under 1 yr.			1 yr. and under 2 yrs.			Under 1 yr.			1 yr. and under 2 yrs.			Under 1 yr.			1 yr. and under 2 yrs.		
	M.	F.	M. F.	M.	F.	M. F.	M.	F.	M. F.	M.	F.	M. F.	M.	F.	M. F.	M.	F.	M. F.	M.	F.	M. F.	M.	F.	M. F.	M.	F.	M. F.	M.	F.	M. F.	M.	F.	M. F.			
United States.....	32	24	8	5	12	7	18	17	5	3	6	7	29	18	4	5	11	2	25	20	5	3	5	4	17	13	4	9	5	5	21	18	3	5	9	3
Irish.....	12	20	6	6	9	4	17	6	2	1	1	4	14	13	6	4	4	3	13	9	4	3	6	3	10	7	6	3	6	8	6	2	4	4	6	
British American.....	9	6	2	2	1	1	4	6	1	1	1	1	12	7	1	1	1	1	5	2	1	1	1	1	4	6	1	1	1	2	6	1	1	2	3	
Italian.....	4	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Russian.....	4	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Other foreign.....	12	12	6	6	3	3	13	13	4	2	2	2	10	2	3	3	2	6	17	12	3	3	7	5	3	6	2	1	5	6	5	1	5	1	1	1
Mixed.....	12	12	6	6	3	3	13	13	4	2	2	2	10	2	3	3	2	6	17	12	3	3	7	5	3	6	2	1	5	6	5	1	5	1	1	1
One parent known.....	13	12	6	6	2	2	1	4	3	4	4	1	4	4	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Unknown.....	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Total.....	92	94	27	28	80	22	98	72	21	11	23	24	107	75	20	22	25	111	86	28	22	21	21	21	67	63	21	26	24	12	73	64	14	20	18	13

	JULY.						AUGUST.						SEPTEMBER.						OCTOBER.						NOVEMBER.						DECEMBER.					
	Under 1 yr.			1 yr. and under 2 yrs.			Under 1 yr.			1 yr. and under 2 yrs.			Under 1 yr.			1 yr. and under 2 yrs.			Under 1 yr.			1 yr. and under 2 yrs.			Under 1 yr.			1 yr. and under 2 yrs.			Under 1 yr.			1 yr. and under 2 yrs.		
	M.	F.	M. F.	M.	F.	M. F.	M.	F.	M. F.	M.	F.	M. F.	M.	F.	M. F.	M.	F.	M. F.	M.	F.	M. F.	M.	F.	M. F.	M.	F.	M. F.	M.	F.	M. F.	M.	F.	M. F.			
United States.....	25	18	5	5	12	3	43	34	6	4	3	6	42	29	4	5	1	28	13	1	1	4	5	1	38	13	6	5	7	8	17	15	2	2	5	4
Irish.....	16	15	4	1	3	1	27	20	2	3	1	2	19	16	5	6	4	12	8	1	1	3	1	1	14	10	2	3	5	12	10	2	2	6	1	
British American.....	9	6	1	1	1	1	17	11	1	1	1	1	7	6	1	1	1	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Italian.....	10	4	1	1	1	1	17	11	1	1	1	1	10	5	2	2	1	8	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Russian.....	10	4	1	1	1	1	17	11	1	1	1	1	10	5	2	2	1	8	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Other foreign.....	8	14	2	2	4	2	18	11	3	2	2	1	14	11	3	2	5	16	12	1	1	2	1	1	10	4	1	1	1	1	1	1	1	1	1	
Mixed.....	20	12	4	5	3	3	25	17	3	1	1	1	22	23	1	2	1	14	11	1	1	2	1	1	10	3	1	1	1	1	1	1	1	1	1	
One parent known.....	16	10	1	1	1	1	19	17	6	1	1	1	18	11	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Unknown.....	6	3	2	1	1	1	1	2	8	1	1	1	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Total.....	113	88	21	20	18	18	162	143	19	19	14	13	148	114	17	23	13	104	63	12	10	14	15	15	79	63	13	13	19	23	66	9	15	18	11	11

ncluded), in One-year and Five-year Groups.

	TYPHUS FEVER.			CHOLERA.			YELLOW FEVER.		
	Deaths from.	Rate per 10,000 Living.		Deaths from.	Rate per 10,000 Living.		Deaths from.	Rate per 10,000 Living.	
8.74	69	8.18	} 6.92						
	45	5.02							
	65	6.82							
	72	7.11							
	73	6.78							
	97	8.48							
7.29	133	11.22	} 19.40	.....	.....	} 22.76			
	166	54.19		.....	.....				
	258	20.25		.....	.....				





Table XII. — Cases Reported, and Deaths from Smallpox, Diphtheria, Scarlet Fever, Typhoid Fever, and Measles, with Percentages.

DATE.	SMALLPOX.		Percentages.	DIPHTHERIA AND CROUP.		Percentages.	SCARLET FEVER.		Percentages.	TYPHOID FEVER.		Percentages.	MEASLES.		Percentages.
	Cases.	Deaths.		Cases.	Deaths.		Cases.	Deaths.		Cases.	Deaths.		Cases.	Deaths.	
1873.....	2,522	738	28.4	.....	.....	.....	1,334	104	7.7	.....	.....	.....	.....	.....	.....
1874.....	1,103	302	27.3	.....	.....	.....	846	68	8.0	.....	.....	.....	.....	.....	.....
1875.....	7	3	28.5	.....	.....	.....	951	149	15.6	.....	.....	.....	.....	.....	.....
1876.....	5	1	20.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1877.....	6	2	33.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1878.....	17	4	23.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1879.....	.....	.....	.....	1,370	669	41.53	.....	.....	.....	.....	.....	.....	.....	.....	.....
1880.....	4	1	25.0	1,167	645	46.70	497	33	6.6	.....	.....	.....	.....	.....	.....
1881.....	44	6	13.6	1,715	774	45.13	333	35	9.1	335	76	26.8	.....	.....	.....
1882.....	24	8	33.3	1,680	802	47.74	689	75	10.9	808	212	26.2	.....	.....	.....
1883.....	8	1	12.4	1,386	575	41.63	1,408	211	14.7	887	198	22.3	.....	.....	.....
1884.....	1	1	100.0	1,415	608	42.97	2,526	209	8.2	948	166	22.6	.....	.....	.....
1885.....	11	1	9.0	1,212	487	40.18	1,635	156	9.2	767	152	19.8	.....	.....	.....
1886.....	.....	.....	.....	1,263	450	35.63	1,149	81	7.0	814	135	16.5	.....	.....	.....
1887.....	4	1	25.0	1,188	423	35.60	1,549	195	12.68	940	183	19.46	.....	.....	.....
1888.....	8	1	12.4	1,049	410	39.08	.....	.....	.....	924	170	18.39	.....	.....	.....
1889.....	10	2	20.0	1,411	589	41.77	707	65	9.19	1,071	186	17.37	.....	.....	.....
1890.....	1	.....	.....	1,314	683	51.63	924	43	4.54	847	135	15.94	.....	.....	.....
1891.....	.....	.....	.....	1,475	463	31.32	1,327	64	4.83	966	154	17.90	.....	.....	.....
1892.....	.....	.....	.....	831	285	34.29	2,937	263	8.91	765	137	17.46	.....	.....	.....
1893.....	.....	.....	.....	1,353	481	35.55	2,980	248	8.60	894	143	15.41	.....	.....	.....
1894.....	77	22	28.5	3,019	878	29.07	2,230	192	8.60	915	141	15.41	.....	.....	.....
1895.....	.....	.....	.....	4,069	654	16.11	1,613	114	7.07	1,028	163	15.88	.....	.....	.....
1896.....	.....	.....	.....	4,489	573	12.74	1,916	121	6.35	1,076	163	15.06	.....	.....	.....
1897.....	10	.....	.....	3,398	456	13.42	1,988	186	7.03	609	178	28.40	.....	.....	.....
1898.....	.....	.....	.....	1,661	185	11.14	877	83	3.76	555	135	23.77	.....	.....	.....
1899.....	*39	5	17.24	2,886	304	10.53	1,381	74	5.36	765	165	21.57	.....	.....	.....
1900.....	.....	.....	.....	4,977	537	10.79	1,710	181	10.58	780	165	21.57	.....	.....	.....
1901.....	504	74	14.68	3,319	933	28.13	1,398	210	15.02	713	141	19.77	.....	.....	.....
1902.....	1,024	190	18.55	1,986	225	11.33	1,122	87	7.75	910	189	21.57	.....	.....	.....
1903.....	68	13	19.12	2,073	214	10.32	1,479	890	60	890	119	13.37	.....	.....	.....
1904.....	.....	.....	.....	2,538	206	8.13	966	39	4.03	868	135	15.73	.....	.....	.....

\* Including one case and one death at Quarantine.

† This percentage is not calculated, as the cases were only reported for a part of the year.

Table XIV. — Deaths of White and Colored with Death-rates per 1,000 Inhabitants to Total Deaths, and Deaths from Pneumonia, Cancer, Heart Disease, and Kidney Diseases with Death-rates per 10,000 Inhabitants, from 1840 to 1904, Inclusive.

YEARS.	POPULATION.	DEATHS.			Death-rate per 1,000 Inhabitants.	Deaths from Pneumonia.	Death-rate per 10,000 Inhabitants.	Deaths from Cancer.	Death-rate per 10,000 Inhabitants.	Deaths from Heart Disease.	Death-rate per 10,000 Inhabitants.	Deaths from Kidney Diseases.	Death-rate per 10,000 Inhabitants.
		White.	Colored.	Total.									
1840.....	84,311	.....	.....	1,972	23.39	135	16.01	17	2.02	15	1.78	.....	.....
1841.....	88,614	.....	.....	1,919	21.41	106	11.83	11	1.23	28	3.12	.....	.....
1842.....	96,251	.....	.....	2,426	25.47	181	19.00	10	1.06	42	4.40	.....	.....
1843.....	101,243	.....	.....	2,197	21.70	167	16.49	14	1.38	34	3.36	.....	.....
1844.....	107,610	.....	.....	2,241	20.82	132	12.36	27	2.50	38	3.53	.....	.....
1845.....	114,366	.....	.....	2,656	22.60	167	14.60	15	1.31	33	2.88	.....	.....
1846.....	118,551	.....	.....	3,389	28.59	234	19.74	19	1.60	42	3.54	.....	.....
1847.....	122,890	.....	.....	4,122	33.54	193	15.70	13	1.06	58	4.72	.....	.....
1848.....	127,397	.....	.....	3,972	31.18	190	14.91	22	1.73	63	4.87	.....	.....
1849.....	132,048	.....	.....	5,079	38.46	265	20.07	18	1.36	82	6.21	12	.91
1850.....	136,881	3,583	86	3,668	26.80	230	21.19	29	2.12	52	3.80	6	.44
1851.....	141,808	3,790	66	3,856	27.29	262	18.54	19	1.34	96	6.09	6	.42
1852.....	145,878	3,676	60	3,736	25.61	226	16.49	32	2.19	79	5.42	3	.20
1853.....	150,595	4,226	58	4,284	28.46	245	16.27	22	1.46	73	5.18	12	.80
1854.....	155,464	4,366	77	4,443	28.58	230	15.72	23	1.48	83	5.34	3	.19
1855.....	160,494	4,017	53	4,080	25.42	224	13.70	31	1.38	95	5.92	23	1.43
1856.....	163,820	4,182	71	4,253	25.96	238	14.56	16	0.98	115	7.02	7	.43
1857.....	167,218	3,865	73	3,938	23.67	108	6.46	29	1.73	102	6.10	10	.60
1858.....	170,685	3,780	60	3,840	22.90	106	6.19	41	2.40	96	5.62	10	.69
1859.....	174,227	3,680	58	3,738	21.43	191	10.96	45	2.58	107	6.14	13	.75
1860.....	177,840	3,822	53	3,875	21.68	.....	.....	.....	.....	.....	.....	.....	.....
1861.....	180,646	3,911	54	3,965	21.95	.....	.....	.....	.....	.....	.....	.....	.....
1862.....	183,497	4,073	54	4,127	22.43	95	13.05	50	2.72	115	6.27	23	1.25
1863.....	186,397	4,167	162	4,329	23.16	236	17.46	52	3.79	135	7.24	35	1.87
1864.....	189,311	5,092	162	5,254	27.69	239	12.63	52	2.74	132	6.90	51	2.70
1865.....	192,318	4,448	93	4,541	23.61	314	16.33	57	2.96	137	7.04	53	2.76
1866.....	194,566	4,288	91	4,379	22.51	334	17.17	78	4.01	137	7.04	56	2.88

1867	237,523	4,313	108	4,421	19,43	237	9,98	82	3,60	139	6,11	61	2,68
1868	231,024	5,429	90	5,519	23,89	368	15,50	85	3,67	172	7,44	82	2,55
1869	246,541	5,377	146	5,523	22,40	403	16,30	107	4,34	159	6,44	82	2,55
1870	250,526	6,397	133	6,100	24,35	386	13,41	111	4,43	196	6,44	107	4,83
1871	258,032	7,762	126	6,888	22,82	597	19,45	103	3,96	239	7,82	121	4,83
1872	265,764	7,917	178	8,090	30,44	517	19,45	104	3,91	207	7,79	142	5,50
1873	321,200	7,624	245	7,869	24,50	463	14,41	141	4,39	144	4,48	170	6,70
1874	331,395	7,614	198	7,812	23,57	571	17,23	140	4,32	323	9,90	149	4,64
1875	351,919	8,901	169	9,060	26,50	632	18,48	108	3,01	322	9,42	172	5,19
1876	346,004	8,069	154	8,253	23,85	523	15,11	164	4,73	369	10,66	142	4,15
1877	350,188	7,142	174	7,316	20,89	484	16,40	186	5,43	285	8,14	176	3,64
1878	354,322	7,492	144	7,686	21,55	561	17,10	196	5,43	359	10,13	204	5,76
1879	358,554	7,202	196	7,998	20,63	613	17,10	196	5,43	359	10,13	204	5,76
1880	362,839	8,363	168	8,581	23,51	690	18,58	196	5,43	359	10,13	204	5,76
1881	368,190	8,782	234	9,016	24,49	694	18,58	241	6,55	465	12,63	226	6,33
1882	373,620	8,787	208	8,965	24,67	681	18,53	233	6,77	509	13,62	259	7,03
1883	379,189	9,513	227	9,740	25,69	757	19,97	233	7,73	528	13,98	280	7,47
1884	384,720	9,374	248	9,692	25,01	764	19,86	233	7,73	530	13,78	306	7,39
1885	390,398	9,346	232	9,618	24,64	963	24,67	274	7,02	668	14,42	343	8,79
1886	401,374	9,062	216	9,268	23,09	778	19,86	299	7,45	581	14,47	340	8,47
1887	412,663	9,824	249	10,073	24,41	796	19,86	334	7,86	619	16,00	331	8,02
1888	424,374	9,862	245	10,259	23,52	834	21,41	306	6,96	688	15,74	335	7,90
1889	436,298	10,019	240	10,197	24,03	990	23,33	279	7,01	789	18,09	319	7,31
1890	448,477	9,920	261	10,181	22,70	1,092	24,35	326	7,27	783	17,46	297	6,62
1891	457,772	10,301	270	10,571	23,09	1,149	25,10	317	6,92	764	16,69	324	7,08
1892	467,960	10,951	286	11,286	24,05	1,222	26,15	333	7,02	890	16,07	356	7,40
1893	476,945	11,427	288	11,710	24,55	1,540	32,29	310	6,50	795	16,46	376	7,88
1894	486,830	11,222	298	11,620	23,66	1,119	32,99	304	6,50	839	12,33	373	7,06
1895	501,063	11,094	286	11,329	22,60	1,263	32,90	391	7,03	870	17,36	377	7,02
1896	516,305	11,310	324	11,634	22,53	1,387	32,96	389	7,03	861	16,87	410	7,94
1897	525,912	10,862	292	11,154	21,09	1,286	32,35	400	7,06	913	17,36	408	7,73
1898	541,827	10,620	266	10,985	20,09	1,169	31,57	412	7,50	934	17,23	409	7,44
1899	556,067	11,386	309	11,167	20,13	1,405	32,31	402	7,24	966	17,40	428	7,71
1900	569,692	11,586	322	11,678	20,83	1,465	32,13	455	8,06	1,009	17,99	422	7,72
1901	573,573	11,045	335	11,300	19,70	1,415	19,16	455	7,94	963	16,79	534	9,31
1902	586,653	10,645	335	10,963	15,73	1,415	19,16	455	7,94	963	16,79	534	9,31
1903	600,829	10,335	337	10,633	17,69	1,353	21,03	511	8,22	1,033	17,61	536	8,46
1904	614,622	10,469	288	10,157	17,50	1,353	21,03	511	8,22	1,033	17,61	536	8,46

## COMPARATIVE DEATHS IN AMERICAN AND FOREIGN CITIES.

The following tables have been prepared to show the comparison of deaths in a few large American and foreign cities, as compared with the City of Boston. It is to be regretted that the amount of information desired is not fully complete, owing to the scarcity of material and information furnished, but in their present condition, as a matter of reference, they may be of value:

Table XVI. — Boston.

YEARS.	Population.	Total Deaths.	Population of Children under 5 years of age. <sup>1</sup>	Deaths of Children under 5 years of age.	Deaths from Diphtheria.	Deaths from Scarlatina.	Deaths from Typhoid Fever.	Deaths from Measles.
1880.....	362,839	8,531	29,649	3,349	588	33	154	49
1881.....	368,190	9,016	30,809	3,314	601	35	207	108
1882.....	373,623	8,905	31,969	3,151	468	75	212	25
1883.....	379,129	9,740	33,129	3,627	445	211	198	152
1884.....	384,720	9,622	34,289	3,570	345	209	216	13
1885.....	390,398	9,618	35,449	3,466	334	156	152	84
1886.....	401,374	9,268	36,582	3,186	329	81	135	36
1887.....	412,663	10,073	37,717	3,662	316	195	183	119
1888.....	424,274	10,197	38,849	3,509	470	65	170	27
1889.....	436,206	10,259	39,983	3,633	564	23	186	48
1890.....	448,477	10,181	40,001	3,349	401	42	155	19
1891.....	457,772	10,571	41,358	3,608	232	64	154	21
1892.....	467,360	11,236	42,715	3,735	414	263	137	19
1893.....	476,945	11,710	44,072	3,987	476	248	148	27
1894.....	486,830	11,520	45,430	4,108	317	192	141	8
1895.....	501,083	11,329	46,787	3,985	589	114	163	19
1896.....	516,305	11,634	48,902	4,055	516	121	162	27
1897.....	528,912	11,154	51,017	3,708	411	136	173	21
1898.....	541,827	10,886	53,131	3,577	170	33	185	27
1899.....	555,057	11,167	55,246	3,591	277	74	165	33
1900.....	569,892	11,678	57,361	3,753	<sup>2</sup> 537	181	143	88
1901.....	573,579	11,300	59,476	3,449	<sup>2</sup> 363	210	142	108
1902.....	584,553	10,983	61,591	3,367	225	87	139	66
1903.....	600,929	10,632	63,706	3,079	214	65	119	50
1904.....	614,522	10,757	65,821	3,105	206	39	135	89

<sup>1</sup> Estimated. <sup>2</sup> The deaths from diphtheria since 1899 include membranous croup.





Table XVII. — (Old City of) New York, N. Y.

YEARS.	Population.	Total Deaths.	Population of Children under 5 years of age. <sup>1</sup>	Deaths of Children under 5 years of age.	Deaths from Diphtheria.	Deaths from Scarlatina.	Deaths from Typhoid Fever.	Deaths from Measles.
1880 <sup>1</sup> .....	1,209,268	31,987	140,673	14,650	1,390	618	372	479
1881 .....	1,246,011	38,624	144,947	17,787	2,249	1,964	594	429
1882 .....	1,283,870	37,924	149,351	17,520	1,525	2,066	516	913
1883 .....	1,322,880	34,011	153,889	13,856	1,009	744	625	716
1884 .....	1,363,075	35,044	158,565	15,272	1,090	608	476	762
1885 .....	1,404,401	35,682	163,383	15,267	1,325	559	405	738
1886 .....	1,447,166	37,351	168,347	16,121	1,727	371	433	668
1887 .....	1,491,137	38,933	173,462	16,766	2,167	569	421	767
1888 .....	1,536,444	40,175	178,783	17,358	1,914	1,301	364	591
1889 .....	1,583,120	39,679	184,164	17,152	1,686	1,242	397	470
1890 .....	1,631,232	40,103	189,760	16,305	1,262	408	352	730
1891 .....	1,680,796	43,659	195,525	18,224	1,361	1,220	384	663
1892 .....	1,708,124	44,317	.....	18,589	1,425	975	399	863
1893 .....	1,758,010	44,479	.....	17,914	1,968	552	381	390
1894 .....	1,809,353	41,175	.....	17,596	2,359	541	326	584
1895 .....	1,873,201	43,420	210,523	18,221	1,634	468	322	793
1896 <sup>1</sup> .....	1,906,139	41,622	210,523	16,807	1,555	402	297	714
1897 .....	1,940,558	38,887	226,327	15,394	1,377	500	299	391
1898 .....	1,976,572	40,438	233,150	15,591	922	524	376	446
1899 .....	2,014,330	39,211	240,714	14,391	940	332	294	379
1900 .....	2,053,979	43,227	233,537	15,646	1,121	315	372	470
1901 .....	2,095,686	43,307	239,708	14,810	1,227	635	412	272
1902 .....	2,139,632	41,704	245,202	15,019	1,142	635	400	462
1903 .....	2,186,017	41,776	250,517	13,741	1,232	485	350	321
1904 .....	2,235,060	48,743	256,137	16,136	1,272	534	309	556

<sup>1</sup> Estimated July 1, 1896.



Table XVIII. — Philadelphia, Pa.

YEARS.	Population.	Total Deaths.	Population of Children under 5 years of age.	Deaths of Children under 5 years of age.	Deaths from Diphtheria.	Deaths from Scarlatina.	Deaths from Typhoid Fever.	Deaths from Measles.
1880 <sup>1</sup> .....	846,980	17,711	<sup>1</sup> 91,544	6,594	323	391	498	108
1881.....	868,000	19,515	<sup>2</sup> 92,744	7,124	457	486	645	17
1882.....	896,539	20,069	94,044	7,264	933	310	660	91
1883.....	907,041	20,076	95,234	7,417	1,006	561	579	58
1884.....	927,965	19,999	96,465	7,606	680	540	662	96
1885.....	949,432	21,392	97,965	8,188	600	375	610	131
1886.....	971,363	20,005	98,925	7,351	411	248	618	19
1887.....	998,801	21,719	100,155	8,421	416	159	621	358
1888.....	1,016,758	20,372	101,386	7,269	350	235	785	24
1889.....	1,040,245	20,536	102,616	7,752	375	296	736	92
1890 <sup>1</sup> .....	1,046,964	21,782	<sup>1</sup> 103,847	7,913	528	189	666	105
1891.....	1,069,264	23,367	105,077	8,479	918	341	684	25
1892.....	1,092,168	24,305	.....	9,305	1,425	484	539	74
1893.....	1,115,562	23,655	.....	8,690	892	267	456	88
1894.....	1,139,457	22,680	.....	8,160	1,047	154	369	33
1895.....	1,163,864	23,797	.....	8,401	1,020	79	469	84
1896.....	1,188,793	23,962	.....	8,661	862	61	402	191
1897.....	1,214,256	22,735	.....	7,605	1,231	282	401	64
1898.....	1,240,266	23,790	.....	7,998	998	114	<sup>3</sup> 639	234
1899.....	1,266,832	23,796	.....	7,056	849	132	948	7
1900.....	1,293,697	25,078	.....	8,078	898	163	449	382
1901.....	1,321,408	24,137	.....	6,840	525	219	444	26
1902.....	1,349,712	23,847	.....	6,922	435	143	588	112
1903.....	1,378,624	25,947	.....	7,079	521	159	967	141
1904.....	1,408,154	25,972	142,771	7,369	542	201	744	220

<sup>1</sup> Census years.<sup>2</sup> Estimated on the increase of census years.<sup>3</sup> Seventy-three of these were soldiers who contracted the disease in camps.

Table XIX. — Chicago, Ill.

YEARS.	Population Estimated.	Total Deaths.	Population of Children un- der 5 years of age.	Deaths of Chil- dren under 5 years of age.	Deaths from Diphtheria.	Deaths from Scarlatina.	Deaths from Typhoid Fever.	Deaths from Measles.
1880.....	508,298	10,462						
1881.....	540,000	13,874						
1882.....	560,639	13,234	.....	6,645				
1883.....	580,000	11,555	.....	5,875				
1884.....	630,000	12,471	.....	6,666				
1885.....	665,000	12,474	.....	6,187	706	279	496	78
1886.....	704,000	13,699	.....	6,763	944	220	483	126
1887.....	760,000	15,400	.....	7,568	1,002	190	381	341
1888.....	830,000	15,772	.....	7,583	858	184	375	151
1889.....	1,106,000	16,946	.....	8,204	1,126	185	453	204
1890.....	1,200,000	21,869	.....	9,964	881	193	1,008	67
1891.....	1,250,000	27,764	.....	12,801	958	499	1,997	265
1892.....	1,438,000	26,219	.....	11,662	1,014	382	1,489	185
1893.....	1,600,000	27,095	.....	12,364	975	329	670	234
1894.....	1,567,727	23,701	.....	12,363	841	190	491	182
1895.....	1,600,000	24,319	227,200	10,449	1,775	77	518	158
1896.....	1,619,226	23,262	192,453	15,336	955	54	751	73
1897.....	1,619,226	21,809	192,453	8,546	702	81	487	139
1898.....	1,650,000	22,747	196,193	8,135	622	67	636	55
1899.....	1,950,000	25,508	196,299	8,880	843	533	442	168
1900.....	1,698,575	24,941	220,824	8,282	797	226	337	194
1901.....	1,758,025	24,406	.....	7,489	495	165	509	158
1902.....	1,820,000	26,455	204,061	8,027	596	445	801	123
1903.....	1,885,000	28,923	211,200	7,879	614	296	588	276
1904.....	1,982,315	26,302	202,893	7,052	395	143	373	47

<sup>1</sup>School census, July 1, 1896.

Table XX. — Brooklyn, N. Y.

YEARS.	Population.	Total Deaths.	Population of Children under 5 years of age.	Deaths of Children under 5 years of age.	Deaths from Diphtheria.	Deaths from Scarlatina.	Deaths from Typhoid Fever.	Deaths from Measles.	Deaths from Consumption.
1885.....	687,000	15,369	89,310	6,756	519	363	158	175	1,995
1886.....	747,000	15,790	97,110	7,000	782	340	128	106	2,085
1887.....	778,800	17,079	101,140	7,577	950	271	143	172	2,026
1888.....	810,000	18,061	105,300	8,019	984	475	158	59	2,051
1889.....	842,000	18,480	109,460	8,265	1,101	273	161	205	2,055
1890.....	875,000	19,827	113,750	8,462	902	227	182	111	2,169
1891.....	910,000	21,349	118,300	9,388	766	485	180	203	2,117
1892.....	898,256	20,807	122,850	8,971	775	412	163	168	2,128
1893.....	928,408	21,017	127,400	8,768	607	307	179	111	2,174
1894.....	969,572	21,183	135,850	9,235	1,279	188	158	204	2,260
1895.....	991,782	22,568	124,000	9,277	1,189	124	173	192	2,299
1896.....	1,025,074	22,497	146,000	9,006	1,063	150	163	333	2,245
1897.....	1,060,483	20,674	180,500	8,252	795	187	173	190	2,164
1898.....	1,095,047	21,856	134,793	8,414	742	159	267	193	2,384
1899.....	1,131,805	21,649	.....	8,072	583	175	205	197	2,485
1900.....	1,169,796	23,067	<sup>1</sup> 181,719	8,776	673	130	361	310	2,445
1901.....	1,209,064	23,271	124,500	8,151	733	496	274	160	2,474
1902.....	1,249,650	22,344	145,324	7,983	762	275	322	239	2,317
1903.....	1,291,597	22,192	.....	7,068	830	244	267	167	2,376
1904.....	1,334,952	24,331	156,254	8,042	706	282	303	333	2,634

<sup>1</sup> Estimated.

Table XXI. — St. Louis.

YEARS.	Population.	Total Deaths.	Deaths of Children under 5 years of age.	Deaths from Diphtheria.	Deaths from Scarlet Fever.	Deaths from Typhoid Fever.	Deaths from Measles.	Deaths from Consumption.
1885.....	400,000	7,490	3,090	<i>Diph. — Croup.</i> 392 — 109	164	125	54	888
1886.....	400,000	8,268	3,434	719 — 160	149	124	6	915
1887.....	420,000	9,155	3,795	927 — 185	48	116	40	829
1888.....	440,000	9,015	3,659	564 — 167	30	130	31	800
1889.....	450,000	8,004	3,149	345 — 94	114	146	63	655
1890.....	465,000	8,409	3,115	186 — 58	87	140	1	843
1891.....	480,000	9,530	3,493	250 — 90	96	165	53	869
1892.....	500,000	10,225	3,607	195 — 91	150	441	7	882
1893.....	520,000	10,303	3,548	227 — 144	79	215	26	964
1894.....	540,000	8,710	3,192	240 — 139	29	171	3	875
1895.....	560,000	9,425	3,373	512 — 171	18	107	38	1,000
1896.....	570,000	9,897	3,326	273 — ....	11	108	17	1,026
1897.....	600,000	9,564	2,799	170 — 70	19	123	1	997
1898.....	623,000	8,908	3,358	152 — 51	28	95	21	1,001
1899.....	640,000	10,024	3,005	192 — ....	34	131	15	1,091
1900.....	575,200	9,849	.....	344 — 64	57	148	45	1,006
1901.....	598,000	10,601	.....	259 — ....	69	176	34	1,128
1902.....	621,000	10,353	2,671	160 — ....	133	222	10	1,131
1903.....	645,000	11,145	2,842	162 — ....	89	288	140	1,126
1904.....	685,000	11,508	2,443	136 — ....	64	225	33	1,323

Table XXII. — London, England.

YEARS.	Population.	Total Deaths.	Population of Children under 5 years of age.	Deaths of Children under 5 years of age.	Deaths from Diphtheria.	Deaths from Scarlatina.	Deaths from Typhoid Fever.	Deaths from Measles.
1880.....	3,771,189	81,832	.....	36,320	544	3,100	702	1,521
1881.....	3,824,960	81,071	497,044	33,325	654	2,108	977	2,533
1882.....	3,861,876	82,905	.....	36,259	863	2,004	975	2,329
1883.....	3,901,164	80,578	.....	33,552	951	1,989	985	2,420
1884.....	3,939,832	83,060	.....	36,030	973	1,444	936	2,286
1885.....	3,978,833	80,000	.....	32,913	896	707	565	2,928
1886.....	4,018,321	82,276	.....	34,319	846	688	618	2,078
1887.....	4,068,150	82,304	.....	35,236	953	1,419	612	2,904
1888.....	4,098,374	79,099	.....	32,669	1,311	1,190	694	2,425
1889.....	4,138,996	76,036	.....	30,469	1,616	771	528	2,308
1890.....	4,180,021	89,554	.....	36,123	1,417	876	618	3,291
1891.....	4,221,452	90,216	501,568	33,340	1,361	589	547	1,807
1892.....	4,263,294	87,749	.....	34,560	1,885	1,174	436	3,398
1893.....	4,306,411	91,536	.....	35,300	3,265	1,596	719	1,661
1894.....	4,349,166	77,039	.....	31,366	2,670	962	635	3,298
1895.....	4,392,346	86,937	.....	35,095	2,316	829	614	2,633
1896.....	4,421,955	83,511	.....	35,599	2,683	942	591	3,697
1897.....	4,463,169	80,944	.....	32,338	2,263	781	593	1,928
1898.....	4,504,766	83,936	536,522	34,184	1,772	583	585	3,075
1899.....	4,506,752	89,689	541,523	32,073	1,964	398	801	2,143
1900.....	4,589,129	86,007	546,570	30,979	1,558	361	756	1,936
1901.....	4,544,963	79,924	.....	.....	1,344	584	548	1,958
1902.....	4,579,110	82,540	500,259	28,768	1,181	563	535	2,361
1903.....	4,613,812	72,019	504,050	25,727	1,752	362	896	2,054
1904 <sup>a</sup> .....	4,649,083	76,694	.....	.....	753	365	297	2,264

<sup>a</sup> Excluding croup.<sup>b</sup> Including croup.<sup>c</sup> Deaths for 52 weeks.

Table XXIII — Paris, France.

YEARS.	Population.	Total Deaths.	Population of Children under 5 years of age. <sup>1</sup>	Deaths of Children under 5 years of age.	Deaths from Diphtheria.	Deaths from Scarlatina.	Deaths from Typhoid Fever.	Deaths from Measles.
1880.....		55,706		17,674	2,048	845	2,008	992
1881.....	2,339,988	55,108	148,601	17,159	2,311	440	1,865	897
1882.....		56,854		17,158	2,244	156	3,214	1,005
1883.....		54,763		16,843	1,781	88	1,880	1,043
1884.....		55,050		16,968	1,928	155	1,508	1,501
1885.....		52,726		15,244	1,655	191	1,320	1,524
1886.....	2,380,945	55,110	146,177	16,498	1,512	403	954	1,210
1887.....		52,886		15,206	1,585	224	1,385	1,628
1888.....		51,230		14,463	1,729	193	766	915
1889.....		54,063		14,679	1,706	170	1,008	1,190
1890.....		54,566	150,490	15,068	1,668	223	665	1,495
Census of 12th April, 1891....	2,424,705							
1891.....	2,424,705	54,443	150,490	14,048	1,531	208	549	1,020
1892.....	2,424,705	54,536	150,490	14,353	1,403	198	691	999
1893.....	2,424,705	52,955		13,046	1,266	177	570	677
1894.....	2,424,705	<sup>2</sup> 49,265	150,490	11,901	1,009	151	697	998
1895.....	2,424,705	51,451			421	179	274	682
1896.....	2,511,629	47,929	188,941	10,363	444	190	262	656
1897.....	2,511,629	46,988	156,494	10,528	296	65	249	821
1898.....	2,511,629	49,574	156,494	11,671	259	138	256	876
1899.....	2,511,629	50,511			336	196	754	901
1900.....	2,511,629	51,725		8,966	294	172	912	854
1901.....	2,660,494	50,196		10,237	628	113	363	578
1902.....	2,660,559	49,275	196,494		529	64	17	625
1903.....	2,660,559	46,557			396	135	280	441
1904.....	2,660,559	47,354	170,694	8,953	250	78	334	564

<sup>1</sup> Estimated, 1891.<sup>2</sup> Inhabitants of Paris only.

Table XXIV.—Vienna, Austria.

YEARS.	Population.	Total Deaths.	Population of Children under 5 years of age.	Deaths of Children under 5 years of age.	Deaths from Diphtheria and Croup.	Deaths from Scarlatina.	Deaths from Typhoid Fever.	Deaths from Measles.
1880.....	721,016	20,453	58,023	8,219	597	172	171	98
1881.....	741,208	21,549	.....	8,324	539	286	171	106
1882.....	749,919	21,585	.....	8,908	522	410	187	203
1883.....	750,762	21,194	.....	7,980	360	150	157	246
1884.....	759,849	20,353	.....	7,688	342	130	95	344
1885.....	769,889	21,976	.....	8,068	464	83	106	289
1886.....	780,066	20,869	.....	8,114	546	124	85	338
1887.....	790,381	20,549	.....	9,812	455	391	80	493
1888.....	800,836	20,349	.....	7,547	521	230	107	253
1889.....	811,434	20,106	.....	7,624	513	139	103	364
1890.....	822,176	20,324	69,710	7,853	536	92	77	469
1891.....	1,378,530	34,479	130,808	15,610	1,311	271	85	855
1892.....	1,406,933	35,134	.....	16,843	1,580	242	116	825
1893.....	1,435,931	34,515	130,808	15,002	1,615	311	105	1,225
1894.....	1,465,637	33,994	140,545	15,073	1,679	413	74	898
1895.....	1,495,764	34,879	.....	15,021	710	437	86	754
1896.....	1,526,623	34,182	.....	14,665	621	486	79	930
1897.....	1,551,129	33,187	.....	13,946	575	286	84	857
1898.....	1,590,295	32,356	.....	13,593	520	227	93	794
1899.....	1,623,134	33,333	.....	.....	463	261	66	684
1900.....	1,656,662	34,303	160,233	13,650	306	168	137	741
1901.....	1,691,996	33,502	.....	12,476	387	367	76	634
1902.....	1,726,604	33,857	.....	13,399	438	277	51	769
1903.....	1,744,177	33,172	.....	.....	426	232	68	378
1904.....	1,797,992	32,931	.....	12,270	386	65	60	1,021

Table XXV. — Glasgow, Scotland.

YEARS.	Population.	Total Deaths.	Population of Children under 5 years of age.	Deaths of Children under 5 years of age.	Deaths from Diphtheria.	Deaths from Scarlatina.	Deaths from Typhoid Fever.	Deaths from Measles.
1880.....		13,303		6,071	150	453	278	331
1881 census.....	511,415	12,909	69,931	5,386	162	256	166	333
1882.....		12,985		5,972	177	263	162	213
1883.....		14,476		6,494	132	449	167	605
1884.....		13,889		6,174	157	412	184	335
1885.....		13,444		6,156	112	288	102	430
1886.....		13,058		5,601	111	345	81	90
1887.....		12,055		5,367	174	234	100	302
1888.....		11,533		4,743	168	163	59	205
1889.....		12,890		5,970	167	109	111	594
1890.....		12,222		5,768	139	124	108	583
1891 census.....	565,710	14,149	72,481	5,432	131	201	123	400
1892.....	669,059	15,128	84,860	6,306	162	304	102	781
1893.....	677,883	15,798	85,968	6,953	208	263	120	855
1894.....	686,920	13,674	87,103	5,326	245	204	150	250
1895.....	695,876	16,332	88,260	6,458	112	180	121	330
1896.....	705,062	14,388	89,413	6,153	83	139	139	814
1897.....	714,419	15,727	90,665	6,750	97	132	172	574
1898.....	724,349	15,333	91,861	6,580	103	188	223	536
1899.....	733,903	15,823	93,073	6,196	106	202	179	546
1900.....	755,730	15,924		6,487	125	210	153	461
1901.....	761,712				123	131	210	499
1902.....	775,601	15,054			127	113	110	266
1903.....	786,897	14,483		5,816	118	82	142	346
1904.....	798,357	14,794	95,164	5,913	91	69	84	323



Table XXVI. — Liverpool, England.

YEARS.	Population.	Total Deaths.	Population of Children under 5 years of age.	Deaths of Children under 5 years of age.	Deaths from Diphtheria.	Deaths from Scarlatina.	Deaths from Typhoid Fever.	Deaths from Measles.
1884.....	541,031	14,382	.....	6,908	80	197	112	611
1885.....	537,548	13,764	.....	6,313	133	190	95	716
1886.....	534,068	13,919	.....	6,162	125	277	140	273
1887.....	530,649	14,006	.....	6,318	95	321	130	661
1888.....	527,233	12,159	.....	5,070	66	187	125	331
1889.....	523,838	13,047	.....	5,921	57	352	167	485
1890.....	520,466	14,293	.....	6,319	104	577	99	535
1891.....	517,145	13,911	.....	5,697	63	119	92	330
1892.....	513,818	12,671	.....	5,322	47	131	111	456
1893.....	510,514	13,919	.....	6,085	47	231	221	273
1894.....	507,220	12,073	64,544	5,214	65	232	248	299
1895.....	638,291	16,215	78,411	7,201	97	168	192	397
1896.....	632,512	14,617	.....	.....	157	227	206	306
1897.....	644,129	15,590	78,411	6,972	91	209	145	344
1898.....	663,645	15,380	.....	6,489	123	145	148	283
1899.....	663,645	16,269	83,042	7,089	139	164	174	330
1900.....	663,645	16,393	83,042	6,417	143	113	120	150
1901.....	636,322	15,493	85,238	6,473	158	192	154	472
1902.....	710,337	15,392	85,685	6,378	222	318	190	234
1903.....	716,810	14,210	85,885	5,796	165	201	108	182
1904.....	723,430	15,851	88,475	7,826	181	149	82	606

Table XXVII. — Berlin, Germany.

YEARS.	Population.	Total Deaths. <sup>1</sup>	Population of Children under 5 years of age.	Deaths of Children under 5 years of age.	Deaths from Diphtheria.	Deaths from Scarlatina.	Deaths from Typhoid Fever.	Deaths from Measles.
Beginning .....	1,089,070	.....	142,476	.....	.....	.....	.....	.....
1880.....	.....	32,823	.....	19,249	1,198	872	527	376
End.....	1,123,749	.....	183,060	.....	.....	.....	.....	.....
1881.....	.....	31,065	.....	17,483	1,593	903	352	201
End.....	1,158,539	.....	143,828	.....	.....	.....	.....	.....
1882.....	.....	30,465	.....	16,990	1,914	604	357	144
End.....	1,196,205	.....	146,138	.....	.....	.....	.....	.....
1883.....	.....	35,066	.....	19,902	2,651	867	222	1,173
End.....	1,232,716	.....	144,484	.....	.....	.....	.....	.....
1884.....	.....	32,982	.....	18,440	2,446	395	243	295
End.....	1,271,677	.....	144,620	.....	.....	.....	.....	.....
1885.....	.....	31,483	.....	15,558	1,816	409	214	406
End.....	1,315,656	.....	146,227	.....	.....	.....	.....	.....
1886.....	.....	34,293	.....	19,215	1,535	271	181	565
End.....	1,363,031	.....	.....	.....	.....	.....	.....	.....
1887.....	.....	30,836	.....	15,777	1,305	257	198	223
End.....	1,415,269	.....	.....	.....	.....	.....	.....	.....
1888.....	.....	29,298	.....	15,076	1,018	201	188	364
End.....	1,472,151	.....	.....	.....	.....	.....	.....	.....
1889.....	.....	34,460	.....	18,394	1,189	244	290	201
End.....	1,528,721	.....	.....	.....	.....	.....	.....	.....
1890.....	<sup>1</sup> 1,579,524	33,393	<sup>2</sup> 164,370	17,630	1,492	298	143	441
End.....	<sup>1</sup>	.....	<sup>2</sup>	.....	.....	.....	.....	.....
1891.....	1,601,327	.....	.....	16,800	1,010	150	166	130
1892.....	1,656,715	32,696	172,378	16,319	1,325	53	137	217
1893.....	1,714,933	36,032	.....	.....	1,578	582	161	341
1894.....	1,655,235	30,961	176,200	14,649	1,361	443	69	203
1895.....	1,677,304	33,627	164,258	16,084	934	817	95	175
1896.....	1,695,313	30,578	.....	13,443	515	333	80	111
1897.....	1,758,885	30,622	58,339	13,825	507	217	71	161
1898.....	1,805,054	30,571	56,751	13,595	608	268	78	119
1899.....	1,817,952	34,011	166,888	14,378	609	525	74	530
1900.....	1,864,203	35,409	.....	15,498	534	502	109	195
1901.....	1,891,900	34,091	.....	14,839	469	492	88	174
1902.....	1,920,459	30,737	.....	11,724	205	272	52	373
1903.....	1,955,875	31,379	.....	12,254	218	331	63	341
1904.....	2,040,455	31,567	.....	.....	339	414	75	412

<sup>1</sup> Census of December 1, 1890.<sup>2</sup> Excluded: Still-born, 1,749, 1,771, 1,759, 1,707, 1,778, 1,848, 1,710, 1,761, 1,758, 1,789, 1,478.

**REMOVAL OF BODIES.**

During the year permits were given for the removal of 380 bodies, chiefly from one cemetery to another.

**STILL-BIRTHS.**

In living births a larger proportion of males than females is born each year. In still-births the proportion is vastly larger. The still-born males in the City of Boston for the year 1904 were in the ratio of 152 to 100 females. The appended table, XXVIII., shows that there has been a steady decreasing ratio of the still-births to the total births for a period of twenty years.

Table XXVIII. — Still-births by Months with Percentages to Total Births and Ratio to 1,000 Inhabitants for Twenty Years.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	*Total Number of Living Births.	Percentage to Total Births.	Ratio to 1,000 Inhabitants.
1885.....	48	41	51	36	50	41	39	42	48	38	44	48	520	11,486	4.33	1.30
1886.....	38	37	46	62	35	38	46	63	43	38	48	49	543	11,980	4.33	1.35
1887.....	45	54	40	48	36	44	34	57	37	43	48	48	534	12,137	4.21	1.33
1888.....	48	48	38	34	52	56	48	40	55	38	48	47	552	12,613	4.19	1.33
1889.....	55	51	49	54	61	59	46	50	46	51	44	44	598	12,787	4.47	1.42
1890.....	48	40	52	58	49	42	51	49	54	50	68	59	627	13,289	4.50	1.39
1891.....	46	47	53	48	55	51	56	49	40	50	57	57	614	13,967	4.31	1.33
1892.....	44	48	51	57	60	53	51	55	44	54	57	54	633	15,154	4.01	1.34
1893.....	54	49	53	59	42	41	51	57	51	38	50	61	605	14,602	3.98	1.24
1894.....	56	56	60	50	69	82	49	45	52	72	65	44	700	15,401	4.35	1.39
1895.....	38	47	52	62	41	53	56	63	50	39	51	50	607	15,618	3.74	1.21
1896.....	69	48	51	48	44	57	51	62	50	51	58	59	648	16,484	3.71	1.25
1897.....	52	55	61	55	62	43	42	46	53	52	40	48	614	16,973	3.49	1.16
1898.....	50	48	49	61	56	45	55	36	54	49	52	58	613	16,680	3.54	1.13
1899.....	46	60	41	43	47	52	41	43	35	37	56	39	539	16,247	3.21	1.07
1900.....	51	36	63	53	46	41	49	46	42	57	41	47	573	16,420	3.39	1.02
1901.....	42	50	45	42	56	46	40	55	44	58	37	61	576	15,580	3.56	1.06
1902.....	51	50	45	66	37	59	39	66	55	42	50	44	623	15,549	3.85	1.06
1903.....	38	51	51	58	61	60	53	54	54	55	44	44	635	15,701	3.89	1.08
1904.....	57	53	62	50	66	60	52	65	54	49	46	49	663	16,211	3.93	1.08
Totals.....	985	969	1,017	1,039	1,025	1,083	949	1,043	963	961	1,004	1,029	12,017	284,844	.....	.....
Average.....	49	48	51	52	51	52	47	52	48	48	50	51	601	14,797	.....	.....

\* Taken from the records of the City Registrar.

Table XXIX.—Cremations in the United States, 1876-1904, Inclusive.

## CREMATION.

For centuries the method of disposal of the dead was entombment and earth-burial. About a quarter of a century ago cremation of dead bodies was introduced, and this method is now gradually spreading among civilized nations, as will be seen by the following table.

In order to ascertain the annual increasing number of cremations, official inquiries were addressed to the superintendents of the different crematories in the United States and Europe.

CREMATORIES.	Date first used.	1876 to	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.
		1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905.	1906.	1907.
New York City (U. S. Cremation Co.)..	1885	67	77	67	83	106	160	187	186	232	243	296	330	331	456	528	602	654	617	720	841			
Buffalo, N. Y.....	1885	8	1	17	16	23	30	38	27	30	31	41	28	44	40	43	67	50	60	55	74			
Troy, N. Y.....	1890	.....	.....	.....	.....	.....	4	10	14	15	12	10	18	14	13	20	16	19	23	20	20			
Swinburne Island, N. Y.....	1889	.....	.....	.....	.....	.....	2	.....	60	28	8	1	1	3	3	4	2	3	3	2	.....			
Waterville, N. Y.....	1893	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	6	5	4	6	10	1	6	1	5			
St. Louis, Mo.....	1888	.....	.....	.....	21	20	42	60	64	72	87	96	86	118	109	123	142	135	136	165	.....			
Philadelphia, Pa.....	1888	.....	.....	.....	14	28	31	51	62	68	74	88	85	78	114	99	118	118	130	158	160			
San Francisco, Cal. (Odd Fellows').....	1895	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	66	101	214	260	347	547	666	614	696	893			
Boston, Mass.....	1893	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	87	88	135	160	167	235	188	171	217	225	211	
Cincinnati, O.....	1887	.....	.....	11	21	34	45	43	34	42	38	66	46	71	59	56	81	89	69	79	92			
San Francisco, Cal. (Cypress Lawn)....	1893	.....	.....	.....	.....	.....	.....	.....	.....	.....	42	111	88	70	54	65	107	98	352	169	133			
Chicago, Ill.....	1893	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	42	66	54	82	130	127	138	200	201	241			
Los Angeles, Cal.....	1887	.....	.....	7	6	12	17	29	41	37	38	37	37	34	58	52	52	66	.....	83	88			



Table XXX. — Summary of Crematories and Cremations in Several European Cities.

CREMATORIES.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.
<b>Germany.</b>																											
Gotha.....	1	17	16	33	33	46	69	76	96	110	95	128	111	162	162	153	139	132	147	188	179	200	189	218	234	276	301
Hamburg.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	57	50	79	91	96	105	125	151	146	104	164	.....	.....
Jena.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	48	98	41	70	81	98	111	145	181	187	.....	.....
Offenbach.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	21	46	47	81	91	123	198
Total.....	1	17	16	33	33	46	69	76	95	110	95	128	111	165	221	251	316	264	318	374	423	513	637	666	804	517	622
<b>England.</b>																											
London (Woking).....	.....	.....	.....	.....	.....	.....	.....	3	10	13	28	46	54	99	104	101	125	150	157	173	240	240	301	273	275	*301	353
Manchester.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	20	47	58	52	51	62	88	84	98	81	86	.....
Glasgow.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	10	16	12	16	20	18	20	24	20
Liverpool.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7	23	23	40	9	40	54	38	40
Total.....	.....	.....	.....	.....	.....	.....	.....	3	10	13	28	46	54	99	107	121	172	209	206	263	337	334	414	427	480	449	418
<b>Sweden.</b>																											
Stockholm.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	13	28	46	27	48	41	51	42	31	47	54	49	54	54	46	46	48	49
Gottenburg.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11	9	11	12	7	3	14	19	24	21	16	16	20	19	18
Total.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	13	23	46	38	57	52	63	49	34	61	73	73	75	70	62	66	67	67

France.	{ Paris .....	749	3,388	8,741	8,974	8,911	8,992	4,180	4,423	4,197	4,513	4,554	5,825	1810	300	270	....
	{ Rouen.....	—	—	—	—	—	—	—	—	—	—	5	4	1	6	7	4
	{ Total.....	749	3,388	8,741	8,974	8,911	8,992	4,180	4,423	4,197	4,513	4,559	5,829	311	306	277	4
Switzerland.	{ Zurich.....	21	32	39	39	41	40	44	64	69	82	81	116	126	159	168	309
	{ Basel.....	—	—	—	—	—	—	—	—	—	17	14	20	17	30	30	36
	{ Total.....	21	32	39	39	41	40	44	64	69	99	95	136	143	189	198	245
Denmark	{ Copenhagen.....	—	—	—	—	4	12	18	31	14	18	28	28	34	44	51	47

\* Working 143 and Golder's Green 188 (now called The London Cremation Co., Ltd.).

† The discrepancy is unexplainable.



Table XXXI. — Summary of Cremations in Italian Cities.

* CITIES.	Date of Inaugu- ration.	1876.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.			
ITALY.																																	
Milan.....	1876	2	9	14	25	40	70	67	44	61	70	61	55	76	86	72	65	66	74	72	64	65	104	92	99	92	107	107	92	....			
Lodi.....	1877	....	6	2	2	5	5	2	....	2	1	4	1	3	3	3	3	1	3	....	1	....	....	....	....	....	....	....	....	....	....		
Rome.....	1883	....	....	....	....	....	....	....	15	29	43	32	33	59	90	74	47	75	55	61	54	49	37	29	55	52	22	....	....	....	....		
Cremona.....	"	....	....	....	....	....	....	....	4	15	5	25	9	10	10	5	8	4	3	4	7	3	3	2	3	6	3	1	4	4			
Brescia.....	"	....	....	....	....	....	....	....	5	2	2	5	4	3	2	2	4	1	1	3	2	1	3	3	2	1	3	....	....	....	....		
Iadue.....	1884	....	....	....	....	....	....	....	....	4	5	5	4	7	5	6	4	3	8	3	3	4	2	3	4	....	....	....	....	....	....	....	
Udine.....	"	....	....	....	....	....	....	....	....	2	4	5	....	4	2	3	2	6	2	2	2	1	1	3	2	6	2	....	7	....	....	....	
Varese.....	"	....	....	....	....	....	....	....	....	1	1	1	5	....	5	....	1	2	1	....	1	3	3	2	2	....	....	....	....	....	....	....	
Spezia.....	1885	....	....	....	....	....	....	....	....	....	1	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	
Novara.....	"	....	....	....	....	....	....	....	....	....	1	2	2	1	3	1	....	7	1	3	1	1	1	2	4	....	....	....	....	....	....	....	....
Florence.....	"	....	....	....	....	....	....	....	....	....	14	16	26	18	21	20	16	24	18	19	24	11	14	13	14	17	20	20	24	18	....	....	....
Livorno.....	"	....	....	....	....	....	....	....	....	....	8	13	20	10	20	26	9	16	16	11	9	24	9	13	13	14	22	25	19	....	....	....	....
Asti.....	"	....	....	....	....	....	....	....	....	....	1	....	4	3	3	2	3	4	....	2	....	1	....	4	....	1	....	....	....	....	....	....	....
Pisa.....	"	....	....	....	....	....	....	....	....	....	8	3	1	3	2	8	1	7	6	7	3	1	2	2	6	10	....	....	....	....	....	....	....
Alexandria.....	1886	....	....	....	....	....	....	....	....	....	....	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Como.....	"	....	....	....	....	....	....	....	....	....	....	5	2	2	3	1	2	2	....	....	1	1	3	2	1	1	....	....	1	....	....	....	....
Turin.....	1887	....	....	....	....	....	....	....	....	....	....	....	1	18	12	10	28	14	22	21	11	22	17	28	14	19	23	17	24	30	....	....	....

Mantua.....	1	2	1	3	4	8	3	4	....	3	2	4	1	5	4	3	8
St. Remo.....	....	5	10	9	9	9	4	7	5	5	11	6	6	10	4	8	....
Verona.....	....	3	2	2	1	....	3	1	....	3	1	1	1	2	1	2	....
Bologna.....	....	....	2	10	12	5	11	3	11	14	20	19	26	22	21	26	26
Modena.....	....	....	....	2	1	4	1	2	3	3	....	3	1	4	5	1	3
Venice.....	....	....	....	....	....	1	7	5	5	3	7	4	4	2	7	3	8
Spoleto.....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Perugia.....	....	....	....	....	....	....	....	....	6	4	2	2	3	4	....	....	....
Sienna.....	....	....	....	....	....	....	....	....	....	3	2	1	....	....	2	3	....
Bera.....	....	....	....	....	....	....	....	....	....	....	1	....	....	1	....	....	....
Total.....	2	15	16	27	45	75	69	70	116	164	180	168	227	262	248	221	263
									219	242	241	245	262	255	215	227	98

\* Dott. Lodovico Forresteri *Statistica delle Cremazioni eseguita in Europa Nel Siculo XIX., 1876-1900.* Edito a cura della Società di Cremazioni in Bologna.

Table XXXII. — Comparative Death-rates per 10,000 Inhabitants from Pulmonary Tuberculosis in some American and Foreign Cities for Ten Years, 1895-1904, Inclusive. \*

YEARS.	Boston, Mass.	Philadelphla, Pa.	New York N. Y. (old city).	Chicago, Ill.	Brooklyn, N. Y. (old city).	St. Louis, Mo.	London, England.	Paris, France.	Berlin, Germany.	Vienna, Austria.	Glasgow, Scotland.	Liverpool, England.
1895.....	26.92	21.04	27.86	13.56	23.17	17.85	18.15	42.25	24.07	.....	22.76	17.24
1896.....	26.72	21.15	26.20	14.27	21.89	18.00	17.59	38.88	23.35	41.60	19.03	18.94
1897.....	24.37	19.68	24.95	13.41	20.40	16.61	17.62	27.02	21.94	39.31	19.86	18.94
1898.....	22.90	20.88	25.08	14.64	21.86	16.07	17.68	33.43	20.99	35.40	19.38	18.08
1899.....	22.27	22.23	26.00	12.90	21.51	17.04	18.88	39.40	22.42	38.67	19.67	19.64
1900.....	22.23	21.00	25.69	15.30	20.90	17.49	17.50	40.10	24.62	38.46	19.06	19.25
1901.....	22.96	22.29	24.97	14.19	20.46	18.86	18.18	40.51	21.93	36.23	18.55	18.97
1902.....	20.65	21.07	22.87	14.04	18.78	18.21	16.64	42.55	20.41	34.40	16.73	18.98
1903.....	20.05	22.14	24.07	14.26	18.55	17.46	15.92	38.93	19.31	34.14	15.82	17.55
1904.....	20.65	22.06	24.68	16.20	19.73	19.39	16.55	38.36	19.95	31.44	16.17	17.72

\* The death-rates were calculated on the official figures sent from the above cities.

## MEDICAL INSPECTION OF SCHOOLS.

TABULATION OF REPORTS OF MEDICAL INSPECTORS OF  
SCHOOLS OF BOSTON FOR THE YEAR 1904.*List of Diseases Found in the Schools.*I.—SPECIFIC INFECTIOUS DIS-  
EASES.

Diphtheria .....	11
Scarlet fever.....	10
Measles .....	264
Whooping-cough.....	14
Mumps.....	103
Chickenpox .....	78
Influenza .....	20
Syphilis.....	6
Tuberculosis.....	10

II.—DISEASES OF THE ORAL AND  
RESPIRATORY TRACT.

## 1. Mouth.

Stomatitis:	
(a) Simple (erythematous),	6
Aphthous herpetic.....	12
Alveolar abscess.....	14

## 2. Pharynx.

Acute pharyngitis.....	140
Hypertrophic pharyngitis (acute and chronic).....	10

## 3. Tonsils.

Acute follicular tonsillitis..	465
Hypertrophic tonsillitis....	222
Abscess .....	2

## 4. Uvula.

Elongation.....	13
-----------------	----

## 5. Nose.

Acute rhinitis.....	24
Chronic rhinitis.....	12
Purulent rhinitis.....	3
Ozaena .....	8
Epistaxis .....	7
Deviations of septum.....	3

## 6. Naso-Pharynx.

Naso-pharyngitis (post-na- sal catarrh).....	37
Adenoid disease.....	190

## 7. Larynx.

Acute laryngitis.....	29
Chronic laryngitis.....	4

## 8. Bronchi.

Acute bronchitis.....	114
Chronic bronchitis.....	3

## III.—DISEASES OF THE EAR.

Foreign bodies (cerumen, etc.).....	5
Otitis media, catarrhal, acute and chronic.....	29
Otitis media, suppurative, acute .....	34
Otitis media, suppurative, chronic.....	15
Imperfect hearing (without visible cause).....	40

## IV.—DISEASES OF THE EYE.

1. Foreign bodies.....	23
------------------------	----

## 2. Eyelids.

Blepharitis.....	141
Stye .....	32
Ptosis .....	4

## 3. Lachrymal Organs.

Abscess .....	2
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## 4. Conjunctiva.

Conjunctivitis:	
(a) Acute catarrhal.....	206
(b) Purulent.....	4
(c) Phlyctenular.....	6
(d) Granular.....	17

## 5. Cornea.

Interstitial keratitis.....	2
Ulcer.....	11
Opacity .....	16

## 6. Iris.

Iritis .....	2
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7. *Muscles.*

Strabismus.....	23
Nystagmus.....	2
Imperfect sight (without visible cause).....	223

## V. — DISEASES OF THE SKIN.

Acne.....	35
Alopecia areata.....	5
Dermatitis.....	71
Eczema.....	376
Erythema multiforme.....	2
Erythema simplex.....	45
Furunculus.....	38
Herpes { simplex.....	193
{ zoster.....	5
Impetigo contagiosa.....	480
Pediculosis.....	2,327
Pemphigus.....	11
Pruritus.....	6
Psoriasis.....	8
Scabies.....	216
Seborrhoea.....	21
Tinea { favosa.....	30
{ trichophytina.....	95
Urticaria.....	56
Verruca.....	15

## VI. — MISCELLANEOUS DISEASES.

Anæmia.....	61
Debility.....	124
Headache (habitual).....	91
Cervical adenitis.....	109
Chorea.....	16
Ulcer.....	34
Deformities (spinal and ex- tremities).....	17
Sprains.....	16
Fractures.....	11
Contusions.....	35
Wounds.....	146
Abscess.....	46
Dental caries (painful).....	31
Neuralgia.....	8
Epilepsy.....	13
Rheumatism.....	15
Cardiac diseases.....	39
Gastric diseases.....	42
Intestinal diseases.....	63
Urinary diseases.....	5
Vaccinations (performed)...	333
Certificates of vaccination..	2,179
Unclassified.....	309

## SUMMARY.

Specific infectious diseases . . . . .	516
Oral and respiratory diseases . . . . .	1,318
Diseases of the ear . . . . .	123
Diseases of the eye . . . . .	714
Diseases of the skin . . . . .	3,985
Miscellaneous diseases . . . . .	3,743
Found free from disease . . . . .	5,753
<b>Total . . . . .</b>	<b>16,152</b>

Number of pupils examined in the schools . . . . .	16,152
Number recommended to be sent home . . . . .	3,259
Number consultations with teachers (about pupils returning to school, etc.) . . . . .	2,372

## MEDICAL INSPECTORS AND SCHOOLS.

## Dist.

1. W. D. Kelly, M.D., 57 Hancock street, city (Tel. Hay. 606-4), Hancock Grammar and Eliot Grammar and their Primaries.
2. M. P. Smithwick, M.D., 156 Mt. Vernon street, city (Tel. Hay. 1519), St. Mary's, St. Stephen's, St. Leonard, Sacred Heart Parochials, Moon-street Primary, Washington Grammar and Baldwin Primary.

Dist.

3. W. S. Boardman, M.D., 63 Mt. Vernon street, city (Tel. Hay. 2184), Bowdoin Grammar and Primaries.
4. C. Morton Smith, M.D., 437 Marlboro' street, city (Tel. B. B. 731), Prince Grammar and Primaries, and Horace Mann School for Deaf.
5. G. S. C. Badger, M.D., 485 Beacon street, city (Tel. B. B. 1128-2), Quincy Grammar and Winthrop Grammar and their Primaries.
6. J. L. Ames, M.D., 72 Chestnut street, city (Tel. Hay. 1188), Brimmer Grammar and Primaries and St. James' Parochial.
7. S. H. Ayer, M.D., 318 Shawmut avenue, city (Tel. Tre. 663), Franklin Grammar and Rice Grammar and their Primaries, Cathedral, Sanctuary Choir and Holy Trinity, German, Parochials.
8. T. C. Erb, M.D., 159 St. Botolph street, city (Tel. B. B. 1607), Dwight Grammar and Everett Grammar and their Primaries.
9. A. W. Fairbanks, M.D., 362 Commonwealth avenue, city (Tel. B. B. 84), Sherwin Grammar and Hyde Grammar and their Primaries, Cottage-place Kindergarten.
10. J. S. Brownrigg, M.D., 16 Delle avenue, Rox. (Tel. Rox. 258), Dudley and Dillaway Grammars and their Primaries, and St. Francis' Parochial.
11. H. J. Perry, M.D., 636 Beacon street, city (Tel. B. B. 996), Martin Grammar and Comins Grammar and their Primaries, Smith-street Parochial.
12. D. N. Blakeley, M.D., 255 Warren street, Rox. (Tel. Rox. 628-2), Dearborn Grammar and Primaries.
13. T. J. Murphy, M.D., 372 Dudley street, Rox. (Tel. Rox. 570), Hugh O'Brien Grammar and Primaries, St. Patrick's Parochial.
14. M. J. Cronin, M.D., 470 Warren street, Rox. (Tel. Rox. 382), Lewis Grammar and Primaries, Roxbury High School and St. Joseph's Parochial.
15. J. E. Butler, M.D., 59 Perham street, W. Rox. (Tel. Rox. 877-9), Phillips Brooks Grammar and Primaries and St. John's Parochial.
16. J. C. D. Pigeon, M.D., 27 Elm Hill avenue, Rox. (Tel. Rox. 1236-2), George Putnam Grammar and Primaries and West Roxbury High School.
17. H. M. Emmons, M.D., 335 Centre street, J. P. (Tel. Jam. 356-3), Lowell Grammar and Primaries, Cheverus Parochial and Jefferson Grammar.

Dist.

18. J. S. H. Leard, M.D., 392 Arborway, J. P. (Tel. Jam. 417-3), Agassiz Grammar and Bowditch Grammar and their Primaries.
19. J. P. Broidrick, M.D., 67 South street, J. P. (Tel. Jam. 268-2), Charles Sumner and Primaries and Leo XIII. Parochials.
20. H. B. Stevens, M.D., 79 Park street, W. R. (Tel. Jam. 657-2), Longfellow Grammar and Primaries.
21. F. C. Jillson, M.D., 11 Hastings street, W. R. (Tel. Jam. 270), Robert G. Shaw Grammar and Primaries.
22. J. T. Cutler, M.D., 20 Crawford street, Rox. (Tel. Rox. 1246-3), Edward Everett Grammar and Primaries and Harbor View-street Primary.
23. D. G. Eldridge, M.D., 15 Monadnock street, Dor. (Tel. Dor. 341-2), Mather Grammar and Primaries and St. Peter's Parochial.
24. A. B. Coffin, M.D., 10 Rosedale street, Dor. (Tel. Dor. 77-3), Christopher Gibson Grammar and Primaries.
25. R. M. Merrick, M.D., 15 Adams street, Dor. (Tel. Dor. 88-2), Mary Hemenway Grammar and Primaries.
26. J. M. Connolly, M.D., 183 Harvard street, Dor. (Tel. Dor. 816-2), Henry L. Pierce Grammar and Primaries and Dorchester High School.
27. J. S. Greene, M.D., 1107 Washington street, Dor. (Tel. Mil. 58-2), Roger Wolcott Grammar and Primaries.
28. W. H. Parker, M.D., 1773 Dorchester avenue, Dor. (Tel. Dor. 364), Gilbert Stuart Grammar and Primary.
29. F. J. Bailey, M.D., 182 Bowdoin street, Dor. (Tel. Dor. 281-1), Minot Grammar and Primaries.
30. H. F. R. Watts, M.D., 6 Monadnock street, Dor. (Tel. Dor. 16-2), John A. Andrew Grammar and William E. Russell Grammar and their Primaries, with the exception of the Harbor View-street Primary.
31. R. M. Cole, M.D., 456 Broadway, S. B. (Tel. S. B. 464-2), Shurtleff Grammar and Primaries and South Boston High School.
32. W. B. Bancroft, M.D., 597 Broadway, S. B. (Tel. S. B. 215-3), Thomas N. Hart Grammar and Primaries and Gate of Heaven Parochial, Lincoln Grammar, Choate Burnham Primary.
33. G. P. Morris, M.D., 702 Broadway, S. B. (Tel. S. B. 201-4), Gaston Grammar and Primaries, Oliver Hazard Perry Grammar, Tuckerman Primary, South Baptist Church School.

Dist.

34. J. H. Sherman, M.D., 534 Broadway, S. B. (Tel. S. B. 228-2), Bigelow Grammar and Primaries.
35. F. W. Stuart, M.D., 550 Broadway, S. B. (Tel. S. B. 210), Norcross Grammar and Primaries and St. Augustine Parochial.
36. F. J. Weller, M.D., 580 Broadway, S. B. (Tel. S. B. 270), Lawrence Grammar and Primaries and SS. Peter and Paul Parochial.
37. J. G. Dearborn, M.D., 2 Wood street, C. D. (Tel. C. D. 414), Harvard Grammar and Primaries and St. Mary's Parochial.
38. Francis Magurn, M.D., 112 Main street, C. D. (Tel. C. D. 278-4), Frothingham Grammar and Primaries.
39. Joseph Williams, M.D., 32 Monument square, C. D. (Tel. C. D. 385-2), Warren Grammar and Primaries.
40. W. J. McNally, M.D., 31 Monument square, C. D. (Tel. C. D. 495-2), Prescott Grammar and Primaries and Charlestown High School.
41. J. F. O'Brien, M.D., 401 Bunker Hill street, C. D. (Tel. C. D. 200), Bunker Hill Grammar and Primaries and St. Francis de Sales Parochial.
42. W. H. Ensworth, M.D., 40 Princeton street, E. B. (Tel. E. B. 219-2), Adams Grammar and Primaries and Boys' and Girls' Assumption Parochials.
43. E. F. O'Shea, M.D., 5 Chelsea street, E. B. (Tel. E. B. 259-3), Lyman Grammar and Primaries, East Boston High and Holy Redeemer Parochial.
44. W. H. Grainger, M.D., 408 Meridian street, E. B. (Tel. E. B. 212), Chapman Grammar and Primaries and Sacred Heart Parochial.
45. H. L. Plummer, M.D., 728 Saratoga street, E. B. (Tel. E. B. 334-2), Emerson Grammar and Primaries, Paul Jones Grammar and Star of the Sea Parochial.
46. O. H. Marion, M.D., 22 Harvard avenue, Allston (Tel. B. D. 172-2), Washington Allston Grammar, Harvard Primary, Everett Primary, and Webster-avenue Primary.
47. H. S. Rowen, M.D., 30 Bennett street, B. D. (Tel. B. D. 73-2), William Wirt Warren Primary, Auburn Primary, Hobart-street Primary and Oak-square Primary, and the St. Columbkille Parochial.
48. H. E. Marion, M.D., 5 Sparhawk street, B. D. (Tel. B. D. 45-2), Brighton High, Bennett Grammar, Winship Primary and Aberdeen Primary.



Dist.

49. W. F. Temple, M.D., 240 Huntington avenue, city (Tel. B. B. 622), Normal, Boys' Latin, English High, Girls' Latin, Girls' High and the Mechanic Arts High Schools.
50. W. P. Coues, M.D., 90 Charles street, city (Tel. Hay 1535-2), Wells Grammar, Phillips Grammar and their Primaries.

## CULTURE STATIONS.

To insure *free* delivery at the laboratory the same day, specimens must reach the stations before the hours given below. After these hours and up to 9 P.M. cultures may be sent, *at the physician's expense*, direct to laboratory.

			Time Limit for Specimens. P.M.
<i>Laboratory,</i>	739 Boylston street,	City,	6.00
<i>Baker, Chester A.,</i>	Mass. ave., cor. Boylston street,	"	5.30
<i>Burden, R. M., &amp; Co.,</i>	308 Hanover street,	"	5.00
<i>Canning Henry,</i>	109 Green street,	"	4.30
<i>Colley, Frank,</i>	610 Tremont street,	"	4.30
<i>Connelly's Pharmacy,</i>	146 Harrison avenue,	"	5.00
<i>Corner, William,</i>	Washington st., cor. Mass. avenue,	"	4.30
<i>Countie, C. J., &amp; Co.,</i>	29 Charles street,	"	5.00
<i>Guild, Frank O.,</i>	Boylston and Exeter streets,	"	5.30
<i>Hubbell &amp; McGowan,</i>	Mass., cor. Huntington avenue,	"	5.00
<i>Metcalf, Theo., Co.,</i>	Copley square,	"	5.00
<i>Metcalf, Theo., Co.,</i>	39 Tremont street,	"	4.00
<i>Pratt, Fred L.,</i>	575 Columbus avenue,	"	5.00
<i>Sheppard, S. A. D.,</i>	Dover and Washington streets,	"	4.00
<i>Wheeler, W. D.,</i>	Mass. avenue and Beacon street,	"	5.00
<i>Downey &amp; McCormick,</i>	Thompson square,	Charlestown,	4.00
<i>Draper, William C.,</i>	Sullivan square,	"	4.00
<i>Clark &amp; Mahoney,</i>	101 Saratoga street,	East Boston,	4.00
<i>Clark &amp; Mahoney,</i>	714 Saratoga street,	"	3.30
<i>Cramer, Max,</i>	1212 Columbus avenue,	Roxbury,	4.00
<i>Gavin, A. L.,</i>	Warren and Regent streets,	"	4.00
<i>Warren Pharmacy,</i>	648 Warren street,	"	4.00
<i>Reld, T. T.,</i>	3101 Washington street,	"	4.00
<i>Sawyer, W. F.,</i>	1152 Tremont street,	"	4.30
<i>Somers, M. W.,</i>	210 Blue Hill avenue,	"	4.00
<i>Alexander, G. H.,</i>	100 Dorchester street,	South Boston,	3.00
<i>Flynn, C. P.,</i>	Dorch. ave. and Dorch. street,	"	4.00
<i>Jones, J. T.,</i>	855 Fourth street,	"	3.00
<i>Cuddy &amp; Joyce,</i>	141 West Broadway,	"	4.00
<i>Archer, Fred W.,</i>	1131 Washington street,	Dorchester,	2.00
<i>Connolly &amp; Davis,</i>	1434 Dorchester avenue,	"	4.00
<i>Connolly &amp; Davis,</i>	760 Washington street,	"	4.00
<i>Connolly &amp; Davis,</i>	64 Walnut street, Neponset,	"	4.00
<i>Copley, A. H.,</i>	542 Columbia road,	"	3.30
<i>Fairfield, Wm. H.,</i>	1758 Dorchester avenue,	"	4.30
<i>Harring &amp; Teele,</i>	Harvard and Washington streets,	"	4.00
<i>Tripp, A. H.,</i>	573 Talbot avenue,	"	4.00
<i>Tessier Bros.,</i>	Dorch. and Savin Hill avenues,	"	4.30
<i>Ernst, Frank F.,</i>	186 Lamartine street,	Jamaica Plain,	4.30
<i>Ernst, Frank F.,</i>	201 Centre street,	"	4.30
<i>Flynn, George W.,</i>	154 Green street,	"	4.30
<i>Rogers, C. B., &amp; Co.,</i>	701 Centre street,	"	4.30
<i>Jeffers, S. T.,</i>	738 South street,	Roslindale,	3.00
<i>Swallow, F. O.,</i>	1904 Centre street,	West Roxbury,	1.00
<i>The Allston Drug Co.,</i>	373 Cambridge street,	Allston,	4.30
<i>Warren, G. W.,</i>	343 Washington street,	Brighton,	4.00

## CONTAGIOUS DISEASES.

The reduction in the mortality from diphtheria since 1895 has been due principally to the extensive use of antitoxin

and skilful intubation, both in hospital and in the homes. We have been less fortunate in discovering the means by which the morbidity from this disease may be reduced proportionately. This is not likely, however, in the presence of the numerous cases of mild, unrecognized diphtheria, and the large numbers of well people who carry the virulent bacilli in their throats and noses without knowing it. Both classes can and do convey the disease to susceptible persons. Our average annual percentage of mortality to the total number of cases of diphtheria for ten years prior to the use of antitoxin in 1895 was 35.66 per cent. The percentage of mortality since 1895 has been 11.53 per cent.

Consumption, though steadily decreasing, principally through educational measures, is left too much to itself on account of insufficient hospital accommodations. This subject was treated in our last annual report, and there is nothing new to be said.

No case of smallpox was found in this city during the calendar year ending December 31, 1904.

If simple isolation and disinfection have been responsible for the greatly diminished morbidity and mortality from scarlet fever in Boston since 1877, they have been more effective than in any other infectious disease in our city. Smallpox alone has been diminished as much, but in that disease we have the advantage of vaccination, which supercedes all other measures. Our annual mortality from scarlet fever for ten years previous to 1877 averaged 317, and for the 28 years since it has averaged 116. The average annual number of deaths from smallpox in Boston from 1840 to 1873 inclusive was 86.7, and from 1874 to 1904 inclusive 10.9.

#### ALLEYWAYS.

The Board has continued to select and require that such alleyways as cannot be kept in a good sanitary condition without paving and draining be so treated. During the fiscal year ending January 31, 1905, there were paved and drained by order of the Board 73,994 square feet of such alleyways, an increase of 35,741 over the year previous.

This work was done under the law of 1894, chapter 119, which is as follows :

SECTION 1. Whenever the Board of Health of the City of Boston shall adjudge that the public health requires and shall order that the surface of any private passageway in said city shall be paved or otherwise provided with a road-bed, the owners of said private passageway shall forthwith pave or lay said road-bed

in accordance with said order and in a manner and with materials satisfactory to said Board.

SECT. 2. In case of objection by any owner of property to the paving of such private way that may be so ordered, the Board of Health, or a majority thereof, shall view the premises, and if so desired give a hearing to parties interested.

SECT. 3. Any justice of any court having jurisdiction in equity may, on the petition of the Board of Health of said city, enforce the provisions of this act by any proper process or decree.

SECT. 4. This act shall take effect upon its passage.

*[Approved March 15, 1894.]*

The application of this law was found to be necessary in order to accomplish any of this work, as under the law of 1898, chapter 219, which placed this work under the Board of Street Commissioners, it was found that they had no funds available for this work, and the outlook was not favorable for anything to be done for some time. The following passageways have been paved during the year:

Adams place.

Alley from 14 Brighton street.

Brighton-street avenue.

Boylston place.

Alley between Bradford street and Shawmut avenue.

Alley between Berwick park and West Newton street.

Cambridge-street avenue.

Alley from 231 Chambers street.

Poplar court.

Fulton-street court.

Alley from No. 1 Wall street.

Van Rensselaer place.

Méchanic street, off Hanover street.

North to Cross street.

Revere place.

Willow park.

McLean court.

Pitts-street place.

Alley between Norway and Dundee streets.

Alley between Fay and Dover streets.

Russell place.

Alley between Harrison avenue and Oxford place.

Oxford place.

#### VACATION AND REMOVAL OF BUILDINGS.

Under chapter 219, Acts of 1897, amended by chapter 222 of Acts of 1899, 127 were ordered to be vacated, after an examination and adjudication by the Board of Health.

All of these were so repaired as to warrant the Board in rescinding its order to vacate. Under the same authority, the Board ordered and secured the removal of 209 buildings and parts of buildings during the fiscal year. The annual destruction of such buildings since the enactment of this law has been as follows:

1898	1899	1900	1901	1902	1903	1904	Total
41	78	55	38	144	161	203	720

#### GALLOP'S ISLAND.

All of the buildings on the island, twenty-one in number, have been thoroughly repaired and repainted during the year at a cost of \$4,099.10. The light sea wall for the protection of the south side of the island, where the sea in heavy storms has carried away considerable material, has been extended and strengthened during the season, and the banks graded to prevent further loss. This work has been done wholly by the superintendent and the permanent help on the island with stone gathered from the beaches. The shore end of the wharf has been lifted out of place and considerable damage done by a heavy storm recently, and will require repairs to the extent of about one thousand dollars. This will be done by replacing the present wooden structure with solid concrete filling on the advice of the City Engineer.

#### QUARANTINE.

The duties in the Quarantine department have been administered by the same officers during the past year, and without uncommon incident worthy of special mention. The property of this branch of our service has been well cared for and is in fair condition. The hospitals have been in use a large part of the year in the care of the ordinary infectious diseases, which are taken from incoming vessels and for those who have been exposed to infection. The latter are held during the time necessary for the development of the suspected disease. More lepers than usual have been cared for during the last year, due in part to the fact that the State has been unable to find a satisfactory place in which to handle those who should be provided for in a State institution. The State is now paying the expenses of the three lepers we have on hand, and have agreed to remove them as soon as it can find a suitable place for their maintenance. There is a bill now before Congress, with good chances for success, to provide a national home for the care

of all lepers found in the United States. This is a most excellent proposition, and one which the whole country should be pleased with.

A small steamer was purchased in December for use in quarantine at such times as the regular steamer may be disabled and undergoing repairs, instead of hiring other boats at an expense of forty dollars per day.

#### POULTRY.

During the month of October the Board found it necessary to pass the following regulation respecting the killing and keeping of poultry :

Oct. 17, 1905.

*Voted*, To amend regulation of July 16, 1896, as amended on July 24, 1900, concerning the keeping and killing of poultry, to read as follows :

*Voted*, That no live chickens, geese, turkeys, ducks or other fowls shall be brought into or kept or held or offered for sale or killed in any place in the city of Boston without a permit therefor in writing from the Board of Health, which permit shall be subject to revocation by said Board at any time; and it is further

*Ordered*, That no carcass of poultry shall be plucked in said city except in such places as are now or may hereafter be assigned by said Board for said purpose; and it is further

*Ordered*, That no carcass of unplucked poultry shall be brought into or exposed or offered for sale or sold in said city.

#### DUMPING GROUNDS.

The growth of the city, and with it the enormous increase of waste matter to be gathered up and so disposed of as to prevent its becoming a source of annoyance and sickness, call for greater care in its disposal. The Board respectfully begs to refer again to its recommendation in its annual report of 1895 for the systematic burning of this waste material in several sections of the city and at moderate cost, to abate one of the great sources of annoyance and complaint throughout the city.

#### NUISANCES ABATED.

The following table shows the number of nuisances abated by owners or occupants of premises, upon notice from the Board of Health :

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
House drains re- paired.....	198	114	137	115	157	183	146	134	137	118	113	64	1,613
Vaults cleaned and repaired.....	1	.....	3	23	9	24	16	4	2	7	3	.....	92
Traps supplied ....	38	25	30	26	34	56	43	32	47	47	30	12	420
Yards cleaned.....	11	29	246	400	590	156	104	161	106	65	61	24	1,953
Cellars cleaned....	129	189	177	113	135	201	131	139	136	98	60	49	1,513
Cesspools cleaned..	2	4	16	62	30	41	45	20	18	23	9	.....	270
Water-closets cleaned and re- paired.....	404	266	259	117	138	238	135	131	197	225	114	105	2,329
Number of places from which fowls were removed....	1	2	6	20	23	14	4	15	1	2	2	1	91
Supply pipes re- paired.....	126	83	47	15	20	26	17	19	18	10	11	30	422
General cleaning and repairing...	56	34	64	39	41	64	47	65	11	89	24	18	552
Dark rooms cor- rected.....	68	24	22	19	7	18	5	7	11	24	13	8	226
Dark and unventi- lated water-clos- ets remedied....	106	90	105	49	63	120	38	60	82	69	46	38	864
Exposed manure removed.....	.....	1	5	.....	3	2	8	3	.....	3	1	2	28
Passageways cleaned.....	4	6	39	51	36	31	15	26	30	12	12	5	267
Sheds cleaned.....	6	2	13	15	12	34	21	102	7	9	7	1	229
Tenements white- washed.....	19	34	105	97	110	134	99	188	152	116	36	28	1,118
Stables cleaned....	2	1	1	4	4	7	9	7	7	1	6	.....	49
Sundry nuisances abated.....	11	17	40	29	35	78	51	65	58	34	23	11	455
Rain conductors repaired.....	7	7	6	11	5	16	11	6	16	15	4	2	106
Roofs repaired ....	7	16	9	9	18	17	8	12	16	7	1	5	125
Receptacles pro- vided for garb- age.....	9	10	64	68	20	62	45	36	27	25	14	18	398
Places from which swine were re- moved.....	.....	.....	1	.....	3	.....	1	.....	.....	.....	2	.....	7
Stagnant water re- moved from va- cant land.....	.....	.....	2	10	31	33	3	6	2	4	.....	.....	91
Vacant lots cleaned.....	4	1	22	18	48	20	6	13	9	11	6	.....	158
Houses cleared of dead rats.....	.....	1	3	1	4	1	1	.....	.....	.....	1	.....	12
Overcrowded rooms relieved...	.....	11	6	4	3	6	4	2	9	2	2	1	50
Gas-pipes repaired	42	25	29	31	61	43	49	47	47	60	31	42	507
Total.....	1,248	942	1,457	1,346	1,640	1,625	1,060	1,303	1,146	1,076	638	424	13,945

## DISINFECTION.

Diphtheria .....	2,591	Rooms disinfected .....	9,394
Scarlet fever .....	1,124	Streets .....	222
Measles .....	17	Places .....	1,405
Phthisis .....	1,989	Courts .....	1,525
Cancer .....	19	Alleys .....	3,343
Typhoid fever .....	15	Passageways .....	3,132
Glanders .....	223	Yards .....	8,586
Infected bedding, etc. lots,	78	Cellars .....	8,254
" books, etc. "	551	Gutters .....	4,841
" clothing, etc. "	122	Water-closets .....	9,617
" carriages .....	22	Urinals .....	98
" schools .....	40	Vacant lots .....	360
Total .....	<u>6,781</u>	Filthy rooms .....	4,158
		Filthy sheds .....	7,891
		Sinks .....	11,390
		Cesspools .....	8,856
		Total .....	<u>73,072</u>

## MATERIALS USED.

Formaldehyde . . . . .	1,860 gallons.
Alcohol (for heat) . . . . .	785 "
Chloride of lime . . . . .	49,000 lbs.
Bichloride of Mercury . . . . .	875 "
Chloride of sodium (in mixing) . . . . .	1,050 "

## STABLE.

Hearings were had on fifty-two applications for the occupation of stables with the following result:

Granted . . . . .	34
Refused . . . . .	10
Awaiting action . . . . .	5
Withdrawn . . . . .	3

## PLUMBERS AND GASFITTERS.

During the past year weekly examinations have been held by the Board of Examiners of Plumbers and Gasfitters with the following results:

*Plumbers.*

Of the 198 applicants registered, 74 asked for masters' and 124 for journeymen's licenses.

Of the number who applied for masters' licenses, 31 passed satisfactory examinations and were granted licenses, and 43 were refused, not having passed satisfactory examinations.

Of those who applied for journeymen's licenses, 50 were granted and 74 refused.

*Gasfitters.*

Number of applications for licenses referred by Building Commissioner to Board of Examiners . . . . .	144
Number of examinations held . . . . .	36
Number of applicants examined by Board . . . . .	127
Masters . . . . .	54
Journeymen . . . . .	73
Number of applicants examined, certified by Board to Building Commissioner for license . . . . .	41
Masters . . . . .	20
Journeymen . . . . .	21
Number of examination papers rejected, applicants not receiving requisite percentage . . . . .	86
Masters . . . . .	34
Journeymen . . . . .	52

APPOINTMENTS.

May 2, 1904, the Board organized by the choice of Dr. Samuel H. Durgin as chairman, and Charles E. Davis, Jr., as secretary.

July 22, Frederick J. Bailey, M.D., was appointed a member of the corps of medical inspectors of schools.

November 28, William D. Kelley, M.D., was appointed one of the medical inspectors of schools in place of Dr. F. J. Cotton, resigned.

December 15, the resignation of Dr. Charles Harrington, after nearly sixteen years of creditable service as inspector of milk and vinegar, was accepted, to take effect on the 31st of December, that he might enter upon the duties of Secretary of the State Board of Health, to which office he was appointed.

January 3, 1905, James O. Jordan, who had served as a chemist in the Bureau of Inspection of Milk and Vinegar for a period of twenty years, was appointed inspector of milk and vinegar in place of Dr. Harrington.

January 30, 1905, Frank B. Gallivan, M.D., was appointed chemist to succeed Mr. Jordan, who had been promoted.

SAMUEL H. DURGIN, M.D., *Chairman*,  
DENNIS J. HERN,  
THOMAS B. SHEA, M.D.



## FINANCIAL STATEMENT.

## EXPENDED TO JANUARY 31, 1905.

Board of Health . . . . .	\$12,500 00
Clerk-hire . . . . .	11,136 28
Messenger service . . . . .	599 94
Sanitary Inspectors . . . . .	34,809 61
Inspector of Animals and Meats . . . . .	1,429 89
Medical officers . . . . .	6,275 00
Disinfection . . . . .	22,643 89
Smallpox Hospital . . . . .	3,139 82
Contagious diseases other than small-pox . . . . .	70 00
Medical inspection of schools . . . . .	9,866 67
Vaccination . . . . .	335 79
Laboratory . . . . .	13,379 31
Nuisances . . . . .	1,376 14
Morgue . . . . .	206 93
Postage . . . . .	262 50
Telephones . . . . .	1,410 04
Travelling expenses — officers . . . . .	1,772 73
Office expenses . . . . .	2,711 76
Horse and vehicle — Board of Health and Medical Inspectors . . . . .	3,590 58
Stationery . . . . .	636 75
Printing . . . . .	6,868 70
Advertising . . . . .	158 40
Examination of plumbing and gas-fitters . . . . .	450 00
Inspection of milk and vinegar . . . . .	11,196 72
Inspection of provisions . . . . .	2,597 23
Superintendent of Pedlers . . . . .	2,388 36
Removal of buildings . . . . .	10,365 79
Quarantine, sundries, and Port Physician . . . . .	2,925 18
Quarantine, Gallop's Island . . . . .	11,542 16
“ steamer “Vigilant” . . . . .	17,793 51
	<u><u>\$194,439 68</u></u>

## INCOME.

Quarantine . . . . .	\$6,441 00
Inspection of milk and vinegar . . . . .	752 50
Smallpox . . . . .	5,833 42
Leprosy . . . . .	508 80
Abating nuisances . . . . .	171 72
Total . . . . .	<u><u>\$13,707 44</u></u>

INVENTORY OF PROPERTY IN CHARGE OF THE  
BOARD OF HEALTH.

Office No. 11 Old Court House, office furniture and records.  
Bacteriological Laboratory, 739 Boylston street, furniture  
and scientific equipment.

Smallpox Hospital, Southampton street—

One building used as a hospital.

One building used as a disinfecting plant.

One building for quarantining suspected cases of rabies  
in dogs.

Milk inspection, office and laboratory at 30 Huntington  
avenue, with fittings and chemical apparatus for the  
examination of milk and vinegar.

Morgue, North Grove street.

Disinfecting building in North Grove street, for the storage  
of disinfectants—12 horses, 5 wagons, 3 ambulances,  
2 vans, 5 pungs, 1 undertaker's wagon, and 44 regen-  
erators.

Quarantine steamer "Vigilant," with equipment.

Quarantine launch "Relief."

Gallop's Island, with the following buildings, etc.:

Rag-shed for the disinfection of rags.

4 polling booths.

2 detention-houses.

1 bath-house.

Smallpox hospital.

Yellow fever hospital.

Overseer's house.

Barn.

Laboratory.

Carpenter shop.

Blacksmith shop.

2 wagons.

Ambulance.

Farming, carpenter, and blacksmith tools.

2 horses.

3 cows.

## REPORT OF DIRECTOR OF BACTERIOLOGICAL LABORATORY.

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### *To the Board of Health:*

GENTLEMEN, — I have the honor to submit the following report for the year ending January 31, 1905; an appendix giving tabular summaries of the routine work is included also.

### NEW LABORATORY.

Plans were made and approved during March and April, 1904, for the removal of the laboratory from the outgrown quarters in the Sudbury building, corner of Sudbury and Hawkins streets, in which the work had been carried on since May 10, 1898, to a new location on Boylston street. The usual delays and postponements incidental to such moves occurred, and the new laboratory was not in operation until August 29, 1904, at which date the final transfer took place. No interruption of the routine work was permitted, but special investigations were much hampered and had to be abandoned in most instances, the reorganization of the work, consequent on the change of location and quarters, occupying a long time after this date.

The new laboratory, which presents a number of original features, was described rather fully in the "Boston Medical and Surgical Journal," November 10, 1904; and also in the "British Lancet," October 22, 1904.

The most satisfactory feature, from the executive standpoint, and the standpoint of the physician, has been the introduction of a new device, original with the Director of this laboratory, for the delivery of cultures directly into an incubator. This device is available to a messenger from the physician at any hour, after the laboratory closes at 6 P.M. About 100 cultures per month have arrived in this way, notwithstanding that this winter has been exceptionally free from outbreaks of diphtheria. All of these cultures would have been delayed about 36 hours under the old methods. About half of them were taken by the physician after 6 P.M.

### SPECIAL WORK.

Under instructions from the Board of Health, the suitability of certain cheap summer drinks for the growth of

typhoid bacilli was tested. In the samples tested, typhoid bacilli died out after 14 hours.

#### NEW DEVICES.

*Porous tops for Petri dishes* (described Journal "Medical Research," December, 1904).— These were devised by the Director of the laboratory as a method for preventing spreaders on agar plates, and have since been quite widely adopted. Their use has been recommended in the Revised Report of the Committee on Standard Methods of Water Analysis of the American Public Health Association.

*Method for preparing specimens for staining flagella* (devised as above, described in the same Journal and similarly incorporated in the recommendations of the committee above mentioned).

*Staining bath for Gram's method* (devised as above; not yet published).

*A Method of Preparing Dialysing Membranes* (devised as above, not yet published).— These membranes are sterilizable repeatedly in the autoclave, resistant to rough handling, preservable indefinitely, uninjured by drying, and always ready for use.

*A New Form of Water Pressure Filter for Toxins, Mallein, etc.* (devised as above, not yet published).

#### FREE VACCINE, ANTITOXIN AND MALLEIN.

This laboratory now acts as a depot for the distribution to physicians of vaccine and antitoxin made by the Massachusetts State Board of Health, and supplies mallein, made in this laboratory, to veterinarians.

#### LABORATORY ROUTINE.

*Laboratory Address.*— 501 Boylston Chambers, 739 Boylston street. Telephone, Back Bay 1500.

*Hours for Receiving Specimens.*— Specimens are received from culture stations at the laboratory daily throughout the year from 8.30 A.M. to 6 P.M. Special deliveries may be made after 6 P.M. all night long. (See below.)

*Hours for Examinations.*— The laboratory is open for examination of specimens from 8.30 A.M. to 5 P.M., except that on Saturdays the closing hour is 12 M., and on Sundays and legal holidays 10 A.M.

*Transmission of Specimens.*— Outfits for specimens from *Tuberculosis, Diphtheria, Typhoid, and Malaria* are kept at

certain drug stores appointed for the purpose, and known as "culture stations." (See page 42.)

If other examinations than these are required, the laboratory should be consulted by telephone (1500 Back Bay) before the specimen is taken.

If special examinations are required the specimens should be sent by special messenger at the physician's expense, and the attention of the laboratory should be specifically called to the specimen at the time of its delivery.

After the specimen is obtained from the patient it may be taken directly to the laboratory. If preferred, specimens from cases of *Tuberculosis* and *Diphtheria* may be returned to a culture station. They must not be mailed under any circumstances. If received at the culture station early enough to reach the laboratory before 6 P.M., they are forwarded free to the laboratory the same day. (A list of the culture stations with the hours up to which cultures may be left to be forwarded on that day is enclosed in every diphtheria box.) Late cultures (*i.e.*, too late for reception at the culture stations) may be sent to the laboratory at the physician's expense at any time during the night, and may there be dropped by the messenger through a chute directly into an incubator, so that they become ready for examination next morning. *Typhoid* and *Malaria* specimens should not be left at the stations, but should be sent directly to the laboratory by mail.

*Miscellaneous.* — The usual routine chemical analyses of formaldehyde, chloride of lime, etc., were made under instructions from the Board of Health by the assistant bacteriologist, B. R. Rickards; also, analyses and human and animal tests concerning the blistering qualities of a variety of lime used in the building trades. A sample of meat was tested November 1, 1904, for ammonia, formaldehyde, boric and salicylic acids, on complaint of a citizen to the Board of Health. The results were negative. Several examinations for lepra bacilli proved positive microscopically, guinea pigs inoculated with the material to exclude tuberculosis proving negative for tuberculosis. Several examinations of suspected rabid dogs were made with negative or doubtful results. The Board instructed Mr. B. R. Rickards to make a report on the conduct of milk examinations in Philadelphia, and the report was made in January, 1905.

*Note on Clinical error in Diphtheria Diagnosis.* — In previous reports (1902-1903) calculations have been given to show by two different methods the probable error of the physician in the purely clinical diagnosis of diphtheria.

These calculations indicated that at least 38 per cent. of the cases reported as diphtheria, without bacteriological examination, are really not diphtheria. A statement to this effect was published in the "Boston Medical and Surgical Journal" and led to some misapprehension, *i.e.*, that the *total reported morbidity* of Boston for diphtheria should be discounted 38 per cent. Reference to the above reports will at once show this 38 per cent. discount ought of course to be applied only to the cases reported on clinical grounds alone. Now, in Boston, from 70 to 80 per cent. of the total reported cases receive bacteriological confirmation (about 40 per cent. at this laboratory, the remainder at the South Department). Hence, only 20 to 30 per cent. of the cases reported in Boston are reported on clinical grounds alone. As it is only to these that the 38 per cent. discount applies, it follows that the total morbidity should be discounted only by *38 per cent. of 20 per cent.—30 per cent., i.e.*, 7.6 per cent. to 11.4 per cent.

A résumé of the work of this laboratory from 1898 to 1903 is given in the Annual Report for 1903.

Respectfully submitted,

HIBBERT WINSLOW HILL,  
*Director of Laboratory.*

## APPENDIX TO LABORATORY REPORT.

TABLE SUMMARIZING ROUTINE EXAMINATIONS FOR YEAR ENDING JANUARY 31, 1905.

	Diphtheria.	Tuberculosis.	Typhoid.	Glanders.	Malaria. <sup>1</sup>	Other diseases. <sup>2</sup>	Total.	Average per day.
February, 1904.....	883	273	83	5	5	4	1,253	
March .....	959	304	74	19	8	11	1,375	
April.....	810	316	77	11	17	9	1,240	
May.....	747	305	83	14	15	14	1,178	
June.....	677	268	75	11	15	6	1,052	
July .....	492	185	90	8	9	2	786	
August .....	369	188	148	17	13	1	736	
September .....	635	230	162	9	18	9	1,063	
October.....	895	225	110	18	14	8	1,270	
November.....	909	211	96	10	8	7	1,241	
December.....	1,015	263	76	9	7	5	1,375	
January, 1905.....	846	347	90	16	5	15	1,319	
Totals.....	9,237	3,115	1,164	147	134	91	13,888	

TABLE SUMMARIZING ROUTINE EXAMINATIONS FOR SEVEN YEARS ENDING JANUARY 31, 1905.

1904-1905.....	9,237	3,115	1,164	147	134	91	13,888	33
1903-1904.....	8,780	2,914	1,088	175	98	46	13,101	36
1902-1903.....	7,739	2,322	984	140	98	32	11,305	31
1901-1902.....	11,304	1,957	1,049	158	85	52	14,605	40
1900-1901.....	13,889	1,021	1,014	119	38	44	21,125	57
1899-1900.....	7,930	.....	483	65	19	29	8,526	24
1898-1899 (9 months).....	3,948	.....	122	.....	.....	.....	4,070	15
Totals.....	67,817	11,329	5,904	804	472	294	86,620	35

<sup>1</sup> Nine positives.<sup>2</sup> Including gonorrhoea, influenza, pneumonia, etc.

Table No. I. — Diphtheria.

SHOWING CULTURES CLASSIFIED.

	Positive.	Negative.	No Growth.	Total.
Primary .....	1,114	4,549	89	5,752
Secondary .....	978	2,470	87	3,485
Total .....	2,092	7,019	126	9,237

Table No. II. — Diphtheria.

SHOWING CASES CLASSIFIED.

	POSITIVE.		NEGATIVE.		NO GROWTH.	TOTAL.		TOTAL.			Grand Total.
	For Diagnosis.	For Release Only.	For Diagnosis.	For Release.	For Diagnosis Only.	For Diagnosis.	For Release Only.	Positive.	Negative.	No Growth.	
	1	2	3	4	5	6	7	8	9	10	
1904.											
February ....	82	13	424	11	1	507	24	95	435	1	531
March .....	96	17	476	19	2	576	36	115	496	2	612
April .....	102	17	344	22	2	448	39	119	366	2	487
May .....	111	19	297	28	3	411	47	130	325	3	458
June .....	91	15	220	22	.....	311	37	106	242	.....	348
July .....	57	15	171	27	.....	228	42	72	198	.....	270
August .....	48	9	157	24	2	207	33	57	181	2	240
September ..	88	18	242	30	2	332	48	106	272	2	390
October .....	119	22	348	18	1	468	40	141	366	1	508
November ...	85	16	497	21	4	586	37	101	518	4	623
December ...	90	22	578	27	1	669	49	112	605	1	718
1905.											
January .....	76	12	465	21	3	544	33	88	486	3	577
	1,047	195	4,219	270	21	5,287	465	1,242	4,489	21	5,752

Column 1 shows the whole number of persons proving positive for diagnosis. In some of these cases the first culture was negative, but subsequent cultures for diagnosis were positive. Column 2 shows the total persons positive for release only, no culture (or in a very few cases a negative culture) being taken for diagnosis. Column 3 shows cases negative throughout for diagnosis. A few of these were reported as diphtheria in spite of the negative cultures, but these proved negative for release also. Column 5 shows cases on which none but no growth cultures were received.



Table No. III. — Diphtheria.

SHOWING COMPARISONS OF WORK DONE IN DIFFERENT YEARS.

*Actual Number of Cultures and Persons Examined.*

Feb. 1 to Feb. 1.	CULTURES.				PERSONS.				Cases Reported.
	Per Month.	For Diagnosis.	For Release.	Total.	Per Month.	Positive Diagnosis.	Negative Diagnosis.	Total Released.	
	1	2	3	4	5	6	7	8	9
1898 (Estimated)...	448	2,000	3,200	5,800	190	400	1,500	550	1,661
1899.....	660	4,408	3,522	7,980	380	1,019	2,920	1,002	2,836
1900 (Approximate)	1,560	8,000	10,800	18,800	700	2,100	5,800	2,000	5,020
1901.....	944	6,689	4,615	11,804	544	1,176	4,679	1,249	2,906
1902.....	660	5,506	2,223	7,729	488	726	4,140	781	1,881
1903.....	783	5,659	3,122	8,781	464	922	4,149	892	2,166
1904.....	770	5,986	3,351	9,287	479	1,047	4,219	965	2,440

*Relative Number of Cultures and Persons Examined (Calculated per 100 Cases Reported).*

1898.....	320	120	192	320	137	24	90	33	1,661
1899.....	280	155	124	280	160	36	103	35	2,836
1900.....	370	159	216	370	167	42	111	39	5,020
1901.....	380	230	158	380	224	40	161	42	2,906
1902.....	411	292	112	411	279	38	220	41	1,881
1903.....	405	261	144	405	257	42	191	41	2,166
1904.....	378	245	133	378	236	43	173	40	2,440

**Table No. I. — Tuberculosis.****MONTHLY TOTALS OF EXAMINATIONS.**

MONTH.	Positive.	Negative.	Totals.
February, 1904 .....	62	211	273
March .....	57	247	304
April .....	60	256	316
May .....	53	252	305
June .....	80	188	268
July .....	48	187	185
August .....	57	131	188
September .....	66	164	230
October .....	70	155	225
November .....	45	166	211
December .....	73	190	263
January, 1905 .....	75	272	347
Totals .....	746	2,869	3,615

**Table II. — Tuberculosis.****SHOWING CASES CLASSIFIED.**

Positive.	Negative.	Total.
684	2,061	2,745

Of the 684 positive cases, 96 per cent. (657) were found to be positive on the first examination, and 4 per cent. (27) on subsequent examinations.

**Table No. I.—Typhoid.**  
**MONTHLY TOTALS OF WIDAL REACTIONS.**

MONTH.	Positive.	Negative.	Atypical.	Total.
February, 1904.....	3	75	5	83
March .....	2	72	.....	74
April .....	6	69	9	77
May .....	1	80	2	83
June.....	.....	75	.....	75
July .....	.....	90	.....	90
August .....	13	131	4	148
September.....	23	135	4	162
October .....	15	87	8	110
November.....	15	80	1	96
December .....	13	63	.....	76
January, 1905.....	11	77	2	90
Totals.....	102	1,027	35	1,164

**Table No. II.—Typhoid.**  
**SHOWING CASES CLASSIFIED.**

Positive.	Negative.	Unsatisfactory.	Total.
101 10%	898 88%	18 2%	1,017 100%

**Table No. I. — Glanders.**

MONTHLY TOTALS OF GUINEA-PIG TESTS.

MONTH.	Positive.	Negative.	Unsatisfactory.	Total.
February, 1904.....		4	1	5
March.....	5	6	8	19
April.....	6	3	2	11
May.....	3	5	6	14
June.....	3	5	3	11
July.....	3	4	1	8
August.....	8	9		17
September.....	4	5		9
October.....	3	14	1	18
November.....	1	8	1	10
December.....	4	3	2	9
January, 1905.....	7	4	5	16
Totals.....	47	70	30	147

**Table No. II. — Glanders.**

SHOWING CASES CLASSIFIED ON RESULTS OF GUINEA-PIG TESTS.

MONTH.	Positive.	Negative.	Unsatisfactory.	Total.
February 1, 1904, to February 1, 1905.	37 37.7%	47 48%	14 14.3%	98 100%

**Miscellaneous Examinations.**

Positive.	Negative.	Unsatisfactory.	Total.
34	51	6	91

The above table includes two or more examinations of the following: Gonorrhea, pneumonia, influenza, leprosy, genito-urinary tuberculosis, rabies, cerebro-spinal meningitis, septic wounds, empyema, diphtheria, staphylococcus and streptococcus virulence, necrosis, abscess, hydrocele, cellulitis, etc.

REPORT OF MEDICAL INSPECTOR.

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*To the Board of Health :*

GENTLEMEN, — I have the honor to submit the following report for the year ending December 31, 1904 :

## INFECTIOUS DISEASES.

*Smallpox.* — There were no cases of smallpox in this city during the year of 1904.

*Diphtheria.* — There were two thousand five hundred thirty-eight (2,538) reported; one thousand four hundred fifty-two (1,452) of these were cared for at the South Department of the City Hospital, 57.21 per cent. There were two hundred and six (206) deaths. Mortality, 8.11 per cent.

*Scarlet Fever.* — There were nine hundred sixty-six (966) cases reported; three hundred and ninety-six (396) of these were cared for at the South Department of the Boston City Hospital, 40 per cent. There were thirty-nine (39) deaths. Mortality, 4 per cent.

*Measles.* — There were four thousand six hundred sixty-two (4,662) cases reported and eighty-nine (89) deaths.

*Typhoid Fever.* — There were eight hundred fifty-eight (858) cases reported; five hundred eighty-one (581) of these were cared for at the different hospitals. There were one hundred thirty-five (135) deaths. Mortality, 15.74 per cent.

*Tuberculosis.* — There were one thousand four hundred fourteen (1,414) cases reported. There were one thousand two hundred sixty-nine (1,269) deaths, six hundred ninety-five (695) of which had never been reported by any physician or institution.

During the past year three hundred sixty-six persons died without a physician in attendance, and were reported to this office. In all these cases a personal visit was made, the body examined, and a probable diagnosis made before granting a permit for burial. Twenty cases were referred to the medical examiner for investigation.

A tabular statement of the cases investigated is appended.

**Tabular Statement of the Cause of Deaths Investigated by the Medical Inspector for the Year ending December 31, 1904.**

BERTILLON CLASSIFICATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
<b>I. General Diseases.</b>													
Measles.....				1			1						2
Diphtheria and croup.....			2			1		1				1	5
Erysipelas.....											1		1
Septicemia.....		1											1
Typhoid fever.....							1						1
Tuberculosis of lungs.....	1	4		4		3	2	2	8	1	3	3	31
Tubercular peritonitis.....					1								1
Cancer of breast.....			1										1
Cancer of uterus.....											2		2
“ others.....	1		1										2
Diabetes.....			1										1
<b>Total from general diseases,</b>	<b>2</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>1</b>	<b>4</b>	<b>4</b>	<b>3</b>	<b>8</b>	<b>1</b>	<b>6</b>	<b>4</b>	<b>48</b>
<b>II. Diseases of the Nervous System and of the Organs of Sense.</b>													
Simple meningitis.....					1					1	2		4
Cerebral hemorrhage and congestion.....	3	1	2	1	2	1			1			1	13
Epilepsy.....									1	1			2
Convulsions of infants.....	3	3		2	2							2	12
Other diseases of the nervous system.....					1								1
<b>Total of the nervous system.....</b>	<b>6</b>	<b>4</b>	<b>2</b>	<b>3</b>	<b>6</b>	<b>1</b>			<b>2</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>31</b>
<b>III. Diseases of the Circulatory System.</b>													
Organic diseases of the heart,	4	12	7	10	6	5	4	5	12	8	8	11	92
Hemorrhage.....									1				1
Embolism and Thrombosis ..					1								1
Other diseases of the circulatory system.....												1	1
<b>Total of the circulatory system.....</b>	<b>4</b>	<b>12</b>	<b>7</b>	<b>10</b>	<b>7</b>	<b>5</b>	<b>4</b>	<b>5</b>	<b>13</b>	<b>8</b>	<b>8</b>	<b>12</b>	<b>95</b>
<b>Carried forward.....</b>	<b>12</b>	<b>21</b>	<b>14</b>	<b>18</b>	<b>14</b>	<b>10</b>	<b>8</b>	<b>8</b>	<b>23</b>	<b>11</b>	<b>16</b>	<b>19</b>	<b>174</b>

STATEMENT OF THE CAUSE OF DEATHS. — *Continued.*

BERTILLON CLASSIFICATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
<i>Brought forward.....</i>	13	21	14	18	14	10	8	8	23	11	16	19	174
<b>IV. Diseases of the Res- piratory System.</b>													
Acute bronchitis.....	2	....	3	1	....	....	1	....	....	....	1	....	8
Chronic bronchitis.....	....	....	....	....	....	1	....	....	....	....	....	....	1
Pneumonia.....	7	4	1	1	1	....	2	....	....	4	2	2	24
Broncho pneumonia.....	....	....	1	....	2	1	1	....	....	....	....	....	5
Total of the respiratory system.....	9	4	5	2	3	2	4	....	....	4	3	2	38
<b>V. Diseases of the Dige- stive System.</b>													
Infantile diarrhoea and athrepsia.....	1	1	2	....	....	....	5	9	9	2	....	....	29
Cirrhosis of liver.....	....	....	....	....	....	....	....	....	....	....	....	1	1
Total of the digestive system.....	1	1	....	2	....	....	5	9	9	2	....	1	30
<b>VI. Diseases of the Genito- Urinary System and Adnexa.</b>													
Acute nephritis.....	....	....	....	2	1	....	....	1	....	2	....	....	6
Bright's disease.....	....	....	....	....	....	....	....	2	....	....	....	....	2
Total of the genito-urinary system .....	....	....	....	2	1	....	....	1	2	2	....	....	8
<b>VII. Puerperal Condition.</b>													
Other accidents of labor.....	....	....	....	....	....	1	....	....	....	....	....	....	1
Total puerperal condition..	....	....	....	....	....	1	....	....	....	....	....	....	1
<b>VIII. Diseases of the Skin and Cellular Tissue.</b>													
Phlegmon, acute abscess.....	....	1	....	....	....	....	....	....	....	....	....	....	1
Total of the skin and tissue cellular.....	....	1	....	....	....	....	....	....	....	....	....	....	1
No deaths were examined in the classifications of IX. and X .....	....	....	....	....	....	....	....	....	....	....	....	....	....
<i>Carried forward.....</i>	22	27	19	24	18	13	17	18	34	19	19	23	252

STATEMENT OF THE CAUSE OF DEATHS.—*Concluded.*

BERTILLON CLASSIFICATION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
<i>Brought forward.....</i>	22	27	19	24	18	13	17	18	24	19	19	22	252
<b>XI. Infantile.</b>													
Congenital debility, icterus and scleroma.....	3	3	5	4	....	2	1	1	3	....	4	3	29
Other diseases peculiar to infancy.....	....	....	1	1	....	....	....	....	....	....	....	....	2
Total infantile.....	3	3	6	5	....	2	1	1	3	....	4	3	31
<b>XII. Old Age.</b>													
Senile debility.....	1	1	1	....	....	....	2	4	2	1	2	....	14
Total from old age.....	1	1	1	....	....	....	2	4	2	1	2	....	14
<b>XIII. External Violence.</b>													
Other accidental injuries.....	2	....	....	....	1	....	....	....	....	....	1	....	4
Total from external vio- lence.....	2	....	....	....	1	....	....	....	....	....	1	....	4
<b>XIV. Ill-Defined Diseases.</b>													
Unknown or not specified diseases.....	4	4	1	1	4	2	4	....	2	....	1	2	25
Total ill-defined diseases...	4	4	1	1	4	2	4	....	2	....	1	2	25
Still-births.....	1	2	2	1	...	2	2	2	1	5	2	....	20
Referred to medical exam- iner.....	2	1	....	1	3	1	2	1	2	8	2	2	20
Total.....	35	38	29	32	26	20	28	26	44	28	31	29	366

DAVID D. BROUGH,  
*Medical Inspector.*



REPORT OF GEORGE A. SARGENT, M.D.

---

January 1, 1905.

*Board of Health:*

GENTLEMEN, — I have the honor of submitting the following report for the past year:

Number of vaccinations at Charity Building, 2,224. Number of certificates of successful vaccinations when such certificates have been demanded, 760.

The Chardon Street Home has been visited. The Suffolk County Jail has been attended daily throughout the year. At this institution 2,083 cases have been treated, the number of visits required being 4,227.

A tabular statement of cases treated at the jail is appended.

Respectfully submitted,

GEORGE A. SARGENT, M.D.

**Tabular Statement of the Diseases Treated at Suffolk County Jail for the Year ending December 31, 1904.**

DISEASES.	Remaining Jan. 1, 1904.	Treated during the year.	Recovered.	Improved.	Sent to Hospital.	Sent to Insane Asylum.	Discharged from Custody.	Died.	Remaining Dec. 31, 1904.
<b>General Diseases :</b>									
Anæmia.....		12		12					
Cold.....		63	63						
Influenza.....		6	6						
Fever, intermittent.....		2	2						
Phthisis, pulmonalis.....		1					1		
Rheumatism.....		82	82						
<b>Diseases of Nervous System :</b>									
Delirium tremens.....		85	85						
Neuralgia.....		89	40	49					
Œdema of brain.....		1						1	
<b>Disease of Intellect :</b>									
Dementia.....		9				9			
<b>Diseases of Circulatory System :</b>									
Cerebral Hæmorrhage.....		1	1						
Endocarditis.....		2					2		
<b>Diseases Involving Bronchi :</b>									
Asthma.....		1		1					
Bronchitis.....		56	56						
<b>Disease of Lungs :</b>									
Pleurisy.....		5		5					
<b>Diseases of Glands :</b>									
Adenitis.....		1		1					
Parotiditis.....		1	1						
<b>Disease of Fauces :</b>									
Pharyngitis.....		22	22						
Post-nasal catarrh.....		5		5					
Stomatitis.....		9	9						
Tonsillitis, acute.....		1	1						
Tonsillitis, follicular.....		13	13						
<b>Disease of Larynx :</b>									
Laryngitis.....		3	3						
<i>Carried forward.....</i>		470	384	73		9	3	1	

## STATEMENT OF THE DISEASES TREATED.—Continued.

DISEASES.	Remaining Jan. 1, 1904.	Treated during the year.	Recovered.	Improved.	Sent to Hospital.	Sent to Insane Asylum.	Discharged from Custody.	Died.	Remaining Dec. 31, 1904.
<i>Brought forward</i> .....		470	384	73	....	6	3	1	....
Disease of Kidneys:									
Nephritis.....		1	....	....	1	....	....	....	....
Diseases of Digestive System:									
Colic.....		8	8	....	....	....	....	....	....
Constipation.....		882	882	....	....	....	....	....	....
Diarrhœa.....		111	111	....	....	....	....	....	....
Dyspepsia .....		74	....	74	....	....	....	....	....
Functional Diseases of Women:									
Dysmenorrhœa .....		4	....	4	....	....	....	....	....
Menorrhagia.....		8	....	8	....	....	....	....	....
Diseases of Cutaneous System:									
Acne.....		3	....	3	....	....	....	....	....
Callus .....		1	1	....	....	....	....	....	....
Clavus.....		1	1	....	....	....	....	....	....
Dermatitis.....		7	7	....	....	....	....	....	....
Eczema.....		6	....	6	....	....	....	....	....
Furuncle .....		8	8	....	....	....	....	....	....
Herpes.....		2	2	....	....	....	....	....	....
Paronychia.....		4	4	....	....	....	....	....	....
Phthetriasias.....		23	23	....	....	....	....	....	....
Psoriasis .....		1	....	1	....	....	....	....	....
Scabies.....		60	57	....	....	....	....	....	3
Urticaria.....		1	1	....	....	....	....	....	....
Verruca.....		2	2	....	....	....	....	....	....
Diseases of Eye:									
Conjunctivitis.....		20	20	....	....	....	....	....	....
Hordeolum.....		1	1	....	....	....	....	....	....
Iritis .....		1	1	....	....	....	....	....	....
Poisons:									
Lead poison.....		1	....	....	....	....	1	....	....
Opium habit.....		27	15	....	....	....	12	....	....
<i>Carried forward</i> .....		1,722	1,523	169	1	9	16	1	3

STATEMENT OF THE DISEASES TREATED.— *Concluded.*

DISEASES.	Remaining Jan. 31, 1904.	Treated during the year.	Recovered.	Improved.	Sent to Hospital.	Sent to Insane Asylum.	Discharged from Custody.	Died.	Remaining Dec. 31, 1904.
<i>Brought forward</i> .....	...	1,722	1,523	169	1	9	16	1	3
New Growths:									
Carcinoma .....	...	1	...	...	...	...	1	...	...
Surgical Diseases:									
Abscess .....	...	22	22	...	...	...	...	...	...
Bunion .....	...	1	...	...	...	...	1	...	...
Chancroid .....	...	2	2	...	...	...	...	...	...
Chronic ulcer .....	...	12	...	12	...	...	...	...	...
Fistula (salivary) .....	...	1	1	...	...	...	...	...	...
Gonorrhœa .....	3	65	25	23	...	...	15	...	5
Hæmorrhoids .....	...	1	...	1	...	...	...	...	...
Leucorrhœa .....	...	1	...	...	...	...	...	...	1
Necrosis .....	...	1	...	...	...	...	1	...	...
Otitis .....	...	5	5	...	...	...	...	...	...
Prolapse of rectum .....	...	1	...	1	...	...	...	...	...
Syphilis .....	4	60	...	44	...	...	16	...	4
Injuries:									
Abrasions .....	...	51	51	...	...	...	...	...	...
Burns .....	...	6	6	...	...	...	...	...	...
Contusions .....	...	23	23	...	...	...	...	...	...
Fractures .....	...	3	3	...	...	...	...	...	...
Frost-bite .....	...	2	2	...	...	...	...	...	...
Sprains .....	...	20	20	...	...	...	...	...	...
Wounds:									
Incised .....	...	4	4	...	...	...	...	...	...
Lacerated .....	...	19	19	...	...	...	...	...	...
Scalp .....	1	43	36	...	...	...	8	...	...
<b>Total</b> .....	8	2,066	1,742	250	1	9	58	1	13
<b>Malingering</b> .....	...	9	...	...	...	...	...	...	...
<b>Grand total</b> .....	8	2,075	1,742	250	1	9	58	1	13

## REPORT OF PORT PHYSICIAN.

### *To the Board of Health:*

GENTLEMEN,—I herewith submit the report of the Quarantine Department for the year ending February 1, 1905. During the past year all vessels from foreign ports, with the exception of the British Maritime Provinces, have been inspected at this Quarantine; and from June 1st to October 1st all vessels from ports south of Virginia have been inspected, the latter regulation also applying to Porto Rico.

During the year there were 105 admissions to the Quarantine Hospital, tabulated as follows:

	Admitted.	Discharged.	Died.	In Hospital Feb. 1, 1905.
Variola.....	7	3	.....	4
Varicella .....	3	3	.....	.....
Scarlet Fever.....	9	9	.....	.....
Measles.....	40	40	.....	.....
Leprosy .....	3	.....	.....	3
Observation .....	39	.....	.....	.....
Parotitis.....	5	5	.....	.....
Malaria.....	3	3	.....	.....
Typhoid.....	2	1	1	.....
<b>Total.....</b>	<b>111</b>	<b>68</b>	<b>1</b>	<b>7</b>

Total passengers examined	.	.	.	.	.	77,840
Seamen	.	.	.	.	.	5,967
Stowaways	.	.	.	.	.	231
Cattlemen	.	.	.	.	.	2,987

Vessels disinfected in accordance with United States Regulations governing vessels from ports infected with bubonic plague, 29.

Vessels disinfected in accordance with United States Regulations governing vessels infected with variola, 2.

Vessels disinfected at request of owners, to comply with Quarantine Regulations at southern ports, 4.

Vessels disinfected in accordance with United States Regulations governing vessels suspected with being infected with yellow fever, 1.

## INCOME.

Seven hundred and ninety-four vessels at \$5 . . .	\$3,970 00
Board of patients . . . . .	1,255 00
Disinfection . . . . .	715 00
One hundred and thirty-eight vaccinations at 25 cents,	37 50
Total . . . . .	<u>\$5,977 50</u>

Respectfully submitted,

PAUL CARSON,  
*Port Physician.*

## REPORT OF INSPECTOR OF ANIMALS.

BOSTON, February 1, 1905.

*To the Board of Health:*

GENTLEMEN, — I have the honor to submit the following report of the contagious diseases among animals, the inspection of animals kept for the production of milk within the city, the inspection of animals and dressed meat at the Brighton Abattoir, and the inspection of provisions, for the year ending January 31, 1905:

## ANIMALS KILLED AT ABATTOIR.

Cattle . . . . .	29,468
Calves . . . . .	13,976
Sheep . . . . .	11,878
Swine . . . . .	21,455
<b>Total . . . . .</b>	<b><u>76,777</u></b>

Table No. 1.

## ANIMALS CONDEMNED.

	Number.	Weight (Pounds).
Cows.....	123	
Steers.....	1	800
Bulls.....	1	780
Calves.....		
Sheep.....		
Swine.....	6	1,144
Parts of animals, including 763 livers.....		9,156
<b>Total.....</b>	<b>131</b>	<b>11,880</b>

“Parts of animals,” in the above table, refers to animals where only a part of the same was condemned, the unmarketable portion being confined to the parts about the local lesion.

Table No. II.

DISEASES FOUND AMONG ANIMALS AFTER HAVING BEEN KILLED AND DRESSED  
AT THE ABATTOIR NECESSITATING THE CONDEMNING OF THE CARCASSES.

DISEASES.	Cattle.	Calves.	Sheep.	Swine.
Tuberculosis .....	114	.....	.....	2
Septicemia.....	8	.....	.....	3
Parturient Fever.....	3	.....	.....	.....
Cholera.....	.....	.....	.....	1
Totals.....	125	.....	.....	6

Table No. III.

ANIMALS RECEIVED DEAD FROM THE STOCK-YARDS TO BE DRESSED FOR FOOD.

ANIMALS.	Number Received.	Number Condemned.	Weight.
Cows .....	37	8	3,745
Steers .....	9	.....	.....
Bull.....	1	.....	.....
Totals.....	47	8	3,745

The above table refers to animals arriving at the different stock-yards which were unable to walk to the abattoir because of injury during transportation, or from what was supposed to be a slight illness; these were shot at the stock-yards and carted to the abattoir in the ambulance.

Of the above forty-seven animals, twenty-eight were found to be slightly injured, five had fracture of a leg, six were pregnant, five had septicemia, and three had parturient fever, the last eight being condemned.

#### ACTINOMYCOSIS.

There were found at the abattoir during the past year twenty-eight cases of actinomycosis, all of which showed only local lesions about the head, and in these cases the heads and tongues were condemned.

#### TUBERCULOSIS.

The following table shows the percentage of tuberculosis in cattle killed at the abattoir:



Table No. IV.

CLASS OF ANIMALS.	Number Received.	Number Tubercular.
Whole number of all kinds (cattle).....	29,468	282
Cows from Eastern States.....	7,725	277
Bulls from Eastern States.....	1,723	3
Cows from Western States.....	8,429	1
Steers from Western States.....	11,501	.....
Steers from Eastern States.....	.....	1
Swine.....	11,368	2

Under the head of "Cows from Eastern States" is included animals from all of the New England States.

By comparing the above table with table under the head of "Diseases found among animals after having been killed," etc., it will be seen that only 114 of the 282 cases of tuberculosis were condemned. This means that 168 of these cases were slight, and not condemnable under the act passed by the Legislature of 1898.

#### INSPECTION OF CATTLE.

The inspection of cattle kept for the production of milk within the city limits has been continued as heretofore. All cattle that have, upon physical examination, shown any symptoms of tuberculosis, have been subjected to the tuberculin test. Five animals were found tuberculous, quarantined, and reported to the State Cattle Bureau as required by the Revised Laws. The barns occupied by these animals were disinfected by the Board of Health.

Six cases of actinomycosis (four with lesions in the udder and two with lesions of the head) were found in cows kept for the production of milk. The owners of the two cases where lesions were present in the head killed the cows at once. The four cases with lesions of the udder were quarantined and reported to the Cattle Bureau, in accordance with the law, but upon examination by the Cattle Bureau were released from quarantine as not being cases of actinomycosis. The Board of Health, believing the use of the milk from cows with lesions of actinomycosis of the udder would be a source of danger to the public, ordered the sale of milk from these cows stopped, and advised the owner to discontinue its use in his family. Three of these four cases

were at once disposed of by the owners, and the fourth, upon further examination by the Board of Health, was again quarantined, and the Cattle Bureau again notified, with the result that the cow was killed.

### GLANDERS.

There have been reported to the Board of Health by veterinarians during the past year 292 suspicious cases of glanders. Of these, eighty horses on examination were found to be affected with some non-contagious disease, and the remaining 212 with glanders. Fourteen of these cases upon inquiry were found to have been owned and stabled outside of Boston, or had been stabled in Boston for so short a time that no doubt existed but that the animals were infected with glanders before coming to Boston. The State Cattle Bureau was notified of such cases, that an investigation might be made by them.

In addition to the above cases of glanders reported to this office, the Board of Health, by examining all animals in stables where a case of glanders has occurred, and also in many other stables, found thirty-five cases of glanders, or fourteen per cent. of the total number of cases, all of which would otherwise have remained in such stables a constant danger to the other animals for some time before being discovered by the owner.

The following table shows the number of cases of glanders for each month during the past year :

Table No. V.

MONTH.	Cases reported.	Cases found by Board of Health.	Cases found which belonged in some other city.	Cases which upon examination were found not to be glanders.	Actual number of cases of glanders found in city.	Number of cases of glanders which belong in Boston.	Number of stables in which glanders was found.	Number of cases reported, but not located.
January.....	24	1	3	3	17	14	18	.....
February.....	30	3	.....	5	27	27	26	.....
March.....	53	4	3	4	52	39	25	1
April.....	35	4	1	12	17	16	15	.....
May.....	18	3	2	5	16	14	13	.....
June.....	21	.....	1	3	13	12	14	.....
July.....	11	3	1	2	13	11	9	.....
August.....	29	5	.....	5	29	29	26	.....
September.....	26	5	1	5	26	25	23	.....
October.....	35	3	1	10	28	27	23	.....
November.....	18	4	1	4	18	17	16	.....
December.....	22	.....	.....	11	11	11	11	.....
Total.....	292	35	14	80	246	232	221	1

All stables in which glanders occurred during the past year have been disinfected.

For a number of years the Board of Health has had similar arrangements, as in diphtheria, for the collection of specimens to be examined for glanders. Veterinarians having cases of a doubtful character from which they desire a guinea-pig test for glanders are encouraged by the Board of Health to take advantage of this opportunity and send a specimen of the suspected matter (as discharge from nose, an ulcer, or an abscess) to the Board of Health laboratory to be tested. Upon making a diagnosis a report will at once be made to the veterinarian sending the specimen.

Veterinarians are also encouraged to use mallein as an aid to them in the diagnosis of glanders, and for this reason the Board of Health has for some time been ready to supply mallein.

#### RABIES.

Six cases of suspected rabies have been reported to the Board of Health during the past year. One of these was a case of rabies and was reported from one of the veterinary hospitals in the city, to which it had been brought from Somerville by the owner. This not being a Boston case was referred to the State Cattle Bureau.

#### INSPECTION OF PROVISIONS.

The following articles of food seized in markets and stores have been condemned:

Beef, tainted . . . . .	4,443 pounds.
Beef livers, tainted . . . . .	1,340 "
Veal, tainted . . . . .	836 "
Veal, immatured . . . . .	24,041 "
Mutton, tainted . . . . .	393 "
Pork, tainted . . . . .	1,746 "
Poultry, tainted . . . . .	6,195 "
Eggs, decayed . . . . .	26 dozen.
Canned eggs, decayed . . . . .	103 pounds.
Cheese, decayed . . . . .	50 "
Onions, decayed . . . . .	57 bushels.
Miscellaneous vegetables, decayed . . . . .	71 "
Fruits, miscellaneous, decayed . . . . .	126 "
Oysters, decayed . . . . .	55 gallons.
Miscellaneous fish, decayed . . . . .	519 pounds.

Respectfully submitted,

ALEXANDER BURR, M.D.V.,  
*Inspector and Veterinarian.*

## REPORT OF MILK INSPECTOR.

BUREAU OF MILK INSPECTION,  
30 HUNTINGTON AVENUE, BOSTON, MASS.

*To the Board of Health:*

GENTLEMEN, — We have the honor to submit the following report for the year ending January 31, 1905:

The total number of samples collected and examined was 18,846, as follows:

Number of samples of milk from wagons . . . . .	6,812
“ “ “ “ stores . . . . .	6,499
“ “ “ brought in by citizens . . . . .	169
“ “ “ (bacteriological) . . . . .	3,300
<hr/>	
Total milk samples . . . . .	16,780
Number of samples of vinegar . . . . .	603
“ “ butter, cheese and oleomargarine, . . . . .	1,463
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Total samples . . . . .	18,846

The condition of the milk sold in this city has as a whole proved satisfactory, and the number of prosecutions was not materially larger than for the preceding year. A plentiful milk supply, the absence of prolonged periods of hot weather during the summer months and continuous inspection were important factors in keeping the quality at a high standard. There is to be noted the increasing tendency towards concentration in the handling of this product, the interests of many of the smaller dealers having been absorbed by the large concerns, some of whom are well equipped for examining the condition of the milk as it comes to them from the producer and before it reaches the public. Such inspections by individuals or contracting concerns is a substantial aid for increasing the purity of this article of food. During the summer months it was found that some of the cream upon this market was being preserved by the use of sodium benzoate. A large number of samples were immediately collected and subjected to analysis. This involved much tedious and painstaking work, but resulted in the conviction, with substantial fines, of four sellers of the cream and the stopping

of further use of this preservative. The employment of other preservatives and of coloring matters in milk has been reduced to a minimum.

Several oleomargarine concerns were discovered using artificial coloring matters to enhance the appearance of their product and cause it to bring a higher price. These were summoned to court, where heavy penalties were inflicted upon the guilty parties, thus putting an end to the use of these coloring matters. In some of the oleomargarine brought into this State from the West, it was found that boric acid and borax were being employed as preservatives. In every instance the seller of this borated oleomargarine was convicted and fined \$100, and the practice was immediately inaugurated of marking the tubs, in accordance with the law, in such a manner as to acquaint the purchaser with the fact that the contents of the package contained boric acid and borax.

There were not many violations of the law governing the sale of renovated butter, the dealers in this commodity generally marking it in accordance with statute regulations. In a few instances a compound of boric acid and borax was found in this process butter.

The vinegar prosecutions were for the most part for the sale of colored white wine vinegar or molasses vinegar for cider vinegar, and in a few instances for sales of cider, lacking the required acidity, for cider vinegar. As a whole, the quality of the vinegar supply was excellent.

The bacterial examination of milk, which was begun on June 1, showed that the conditions under which milk is produced, cooled and stored are susceptible of great improvement. In the effort to secure better conditions the office has had the hearty co-operation of all of the large contractors, who realize that clean milk is of greater commercial value than dirty milk, since it is longer in souring. Through the contractors 387 notices were sent to producers whose milk was found to contain excessive numbers of bacteria, and in many instances later examinations showed an improvement in this respect. A number of contractors have issued circular letters to the farmers whose milk they purchase, explaining the necessity of proper methods of milking, cooling and storage; and it is their intention in making new contracts to provide that the milk sent to Boston shall have been produced under conditions approved by the Board of Health.

Following is a summary of prosecutions made during the year:

